

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK**

IN RE GOOGLE DIGITAL ADVERTISING :
: Case No. 1:21-md-3010 (PKC)
ANTITRUST LITIGATION :
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This Document relates to: :
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IN RE GOOGLE DIGITAL PUBLISHER : Case No. 1:21-cv-7034 (PKC)
LITIGATION :
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FIRST AMENDED CONSOLIDATED CLASS ACTION COMPLAINT

JURY TRIAL DEMANDED

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Plaintiffs Genius Media Group (k/n/a MediaLab AI, Inc.),¹ Sterling International Consulting Group, The Nation Company, L.P., The Progressive, Inc., JLaSalle Enterprises LLC, and Mikula Web Solutions, Inc. (“Plaintiffs”), on behalf of themselves and all others similarly situated, bring this class action, pursuant to Rule 23 of the Federal Rules of Civil Procedure, against Defendants Alphabet Inc. (“Alphabet”), Google LLC (“Google”), and YouTube, LLC (“YouTube”) (collectively, “Defendants”). Plaintiffs seek treble damages and injunctive relief for Defendants’ violations of Section 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1 and 2, the California Unfair Competition Act (Cal. Prof. Bus. & Prof. §§17000 *et al.*), and Cartwright Act (Cal. Bus. & Prof. §§16700 *et al.*), and allege, based on personal knowledge as to acts and events taking place in their presence, on the investigation of counsel, and on information and belief for all other allegations, as follows:

INTRODUCTION

1. This case is about the future of online publishers such as Plaintiffs and proposed Class members who produce and publish the websites that have become the driving source of information throughout our society. These publishers, ranging from news organizations, to niche informational sites, to eclectic work-at-home bloggers, rely on online advertising revenue to fund their businesses. Their ability and incentive to create online content is being unlawfully threatened by Google—a titan of the Internet—whose advertising-related revenues have exploded, over \$209 billion in 2021, while publisher ad revenues have plummeted.

2. The online advertising market is broken because of Google’s past and ongoing unlawful conduct, alleged herein, that is largely directed at online publishers. Plaintiffs bring this

¹ Substantially all of the assets of Plaintiff Genius Media Group, Inc., including its claims in this matter, were acquired in 2021 by MediaLab AI, Inc.

action to protect free market competition from Google's continued unlawful exclusionary manipulation, and to remedy harm to online publishers that sell digital advertising space to advertisers. That harm is the direct result of Google's efforts to foreclose competition and expand and maintain its dominance and control of publisher-provided online display advertising.

3. While most-commonly known as a search engine, Google (including its parent Alphabet Inc.) is a digital advertising behemoth. Long dominant in search advertising (served up to users entering search queries), for more than a decade, Google also has been the dominant force in display advertising (ads shown on publishers' websites) through the digital advertising services that Google sells to publishers and advertisers, which generate a substantial portion of Google's revenues. As discussed below, Google has illegally exploited its unique opportunities for competitive interference—derived from its control over the tools that connect publishers and advertisers—to benefit its own business and to harm both publishers and advertisers.

4. The unlawful anticompetitive conduct at the heart of this case occurs in the display advertising marketplace, where publishers sell space on their websites to advertisers through real time auctions. In the sale of display ad space, Google represents both sellers (publishers like Plaintiffs and the proposed Classes defined below) and the buyers (advertisers), while also controlling the platforms through which both sides interact (the Ad Exchange or Ad Network that sets the auction and pricing rules). Google performs every function in the digital advertising chain that connects publishers and advertisers, and Google controls access to the vast majority of advertising volume.

5. Through its campaign of anticompetitive conduct, Google has achieved and maintained monopoly power in that marketplace by erecting a toll bridge between publishers and advertisers, effectively mandating passage across that bridge for publishers seeking access to

advertisers and for advertisers seeking access to publishers, while extracting supracompetitive tolls from both publishers and advertisers. When publishers have tried to avoid Google’s dominance, Google has promptly used its monopoly power to stamp out those efforts and prevent competition.

6. Plaintiffs and the proposed Classes are publishers who operate websites and seek to sell space on their own websites to advertisers for the placement of digital display ads. When the viewer or user of a webpage loads and views the page, she provides the publisher with the opportunity to populate that page with advertising targeted specifically to her, effectively generating ad inventory on the publisher’s site (known as “impressions”). This sets off a series of processes that place digital display ads on publishers’ websites through what is called the “Ad Tech Stack.”

7. This case involves three “Relevant Markets” that make up that portion of the Ad Tech Stack that interfaces with publishers: (1) Publisher Ad Servers (“Ad Servers”); (2) Ad Exchanges; and (3) Ad Networks. The Ad Server—the software or code that publishers use to identify the creation of ad impressions and arrange for the sale of those impressions—connects the publisher to “Ad Exchanges” and/or “Ad Networks.” Ad Exchanges are auction-like platforms where advertisers bid to place advertisements on publishers’ websites. Ad Networks are platforms that match advertisers and publishers, but which provide fewer features and target relatively smaller publishers than Ad Exchanges. Ad Exchanges and Ad Networks provide bids from their participating advertisers to the publisher Ad Server. Once a publisher’s Ad Server identifies the winning bid, it selects the winning advertisement from the advertiser’s representatives in the Ad Tech Stack and places (or “serves”) the ad on the publisher’s website.

8. Google maintains monopoly power in each of the three publisher-facing Relevant Markets. Google maintains (1) the dominant publisher Ad Server products, with approximately 90% of the Ad Server market, (2) the dominant Ad Exchange, with transactions accounting for more than 70% of impressions in the Ad Exchange market, and (3) the dominant Ad Network, which likewise transacts more than 70% of impressions in the Ad Network market.

9. This case also involves three “Adjacent Relevant Markets”. Two of them are the advertiser-facing portions of the Ad Tech Stack: Ad Buying Tools markets for large and small advertisers, respectively. Advertisers do not bid for or buy ad impressions directly, but rather use Ad Buying Tools to seek ad space that is most likely to optimize advertising campaigns. The third Adjacent Relevant Market is online search advertising, in which advertisers purchase advertising space in line with or alongside search engine results.

10. Google has monopoly power in each Adjacent Relevant Market. Google has a market share of 80-90% of each of the two Ad Buying Tools markets. And it has long had monopoly power in the online search advertising market, with at least a 70% market share, achieved principally because Google operates the dominant search engine that fulfills over 90% of search queries.

11. Google has used its dominance across these Relevant Markets and Adjacent Relevant Markets successfully to pursue a continuous, evolving series of exclusionary and predatory acts that were designed to and did impair and foreclose competition in multiple relevant markets (including those alleged herein), reduce output, charge supracompetitive prices, and stifle innovation (the “Scheme”). The multiple acts of exclusionary conduct that make up the Scheme have had synergistic effects creating reinforcing feedback loops that augment the impact of each individual anticompetitive act. Google has used the Scheme like a vise, primarily through

the abuse of its monopoly power in Ad Servers (but also in places through the abuse of its monopoly power in the Ad Exchange and Ad Network markets, and the Adjacent Relevant Markets of search advertising and Ad Buying Tools) to squeeze the life out of competition throughout the Ad Tech Stack, adjusting its conduct to make the Scheme more effective and to vanquish new competitive challenges as they arose over time. No part of Google’s Scheme involves attempting to win business on the merits, namely by improving products for Google’s customers or enhancing efficiency.

12. The evolution of Google’s Scheme has had effects diametrically opposite to the competitive benefits it claimed to the Federal Trade Commission that would result from its entry into the Ad Tech business in 2008 when it acquired the DoubleClick Ad Server, which Google later renamed DoubleClick for Publishers (or simply “DFP”). The Federal Trade Commission, which conducted a competition assessment of the merger, observed the potential for future “unlawful tying or other anticompetitive conduct.” While the Commission nevertheless approved the merger, the warnings and concerns at the time have proved prescient.

13. In December 2020, 16 state attorneys general and the attorney general for the Commonwealth of Puerto Rico filed suit to remedy Google’s unlawful conduct with respect to display advertising, challenging many of the practices at issue raised in this Complaint. Following multiple rounds of amendments to the States’ complaint, culminating in the Third Amended Complaint (“States’ Complaint”) filed on January 14, 2022, Google moved to dismiss the States’ Complaint. On September 15, 2022, this Court rejected a substantial portion of Google’s motion to dismiss.

14. This Complaint considers the Court’s Order on Google’s motion to dismiss and refines the allegations previously asserted by Plaintiffs and the proposed classes of publishers

against Google. Plaintiffs have set forth, by number, each of the specific sixteen anticompetitive acts forming the Scheme alleged herein in Tables 1, 2, and 3 below. For each act, Plaintiffs identify in each Table the relevant time period and the markets implicated. In summary, Plaintiffs assert three groups of allegations concerning Google's misconduct: (A) in Table 1, two pairs of illegal ties (four total ties referred to as Act 1 through Act 4), of which the Court has only directly considered and upheld Act 1; (B) in Table 2, nine elements of conduct (Act 5 to Act 13) that the Court upheld as forming the basis of antitrust claims in connection with the States' Complaint; and (C) in Table 3, three additional elements of conduct (Act 14 to Act 16), which the Court has yet to consider.

15. Table 1 sets forth two pairs of illegal ties that form part of the illegal Scheme alleged herein. Table 1 describes each tie and the conduct underlying it, identifying the tying and tied products, the time period in which Google engaged in the tie, as well as the market in which Google uses monopoly power and the market affected by Google's use of monopoly power. Act 1 and Act 2 constitute a "two-way" tie that requires large publishers to use Google's AdX Ad Exchange and DFP Ad Server together to obtain and reinforce monopoly power in both the Ad Exchange and Ad Server markets. The Court upheld Act 1 as stating a claim. The Court has not yet considered whether the facts underlying Act 2 state a tying claim. However, Act 2 is based in part on Google's encrypting publishers' User IDs and allowing only Google's Ad Exchange to decrypt the User IDs. While the Court dismissed the States' claim insofar as it concerned Google's encryption of User IDs, the States did not assert such conduct to be part of an illegal tie. Act 3 and Act 4 together constitute another "two-way" tie that coerces small- and medium-size publishers to use a Google Ad Server (either DFP or AdSense) and to sell their impressions through Google's Ad Network, the Google Display Network. The Court has not considered ties

in Act 3 or Act 4 because the States did not discuss Ad Networks in the States' Complaint. These detailed allegations relating to Act 2 to Act 4 in this Amended Consolidated Complaint are "non-conforming", using the terminology used by this Court's Order of September 14, 2022.

Table 1
The Illegal Ties in Google's Scheme of Anticompetitive Conduct

	Act	Period	Market Used	Market Affected
1	Tying AdX (tying product) to DFP (tied product)	2009-present	Ad Exchange	Ad Server
2	Tying DFP (tying product) to AdX (tied product)	2009-present	Ad Server	Ad Exchange
3	Tying Google Display Network (tying product) to AdSense/DFP (tied products)	2009-present	Ad Network	Ad Server
4	Tying AdSense/DFP (tying products) to Google Display Network (tied product)	2009-present	Ad Server	Ad Network

16. Through Act 1, beginning in 2009 and continuing through the present, Google used its monopoly power in the Ad Exchange market, acquired in part through Google's assembly of a "must have" group of advertisers obtained through Google's dominance in search advertising, discussed below, to tie its Ad Exchange, AdX, to its Ad Server, DFP. This tie contributed to and helped maintain Google's monopoly in Ad Servers. In 2018, Google cemented this tying arrangement, and its impairment of competition in both the Ad Exchange and Ad Server markets, by bundling AdX and DFP into a single product called Google Ad Manager. The Court's Order denying Google's motion to dismiss the States' Complaint upheld Act 1. Thus, Plaintiffs' Act 1 allegations are "Conforming Amendments", and should be treated similarly with the conduct elements listed in Table 2, *infra*.

17. Through Act 2, beginning in 2009 and continuing through the present, Google used its monopoly power in its DFP Ad Server (the tying product) to require the use of Google's AdX (the tied product). Google did this through several forms of conduct, including by giving its Ad Exchange the opportunity to prevent other Ad Exchanges or Ad Networks from bidding at all

if Google could beat such other Ad Exchanges' and Ad Networks' static, historical bids (Act 5 and Act 6, discussed *infra*). Google also manipulated its AdX take rates using Dynamic Revenue Share (discussed *infra* as Act 8) to prevent publishers from selling impressions through other Ad Exchanges and Ad Networks. Google further accomplished this tie by encrypting the User ID of users visiting websites so that Publishers and Advertisers lost the ability to mutually recognize their repeat customers and so precluded them from transacting on non-Google Ad Exchanges. The encryption degraded the ability of advertisers bidding through those rival Ad Exchanges to win auctions for ad impressions, thereby effectively coercing publishers to use Google's AdX. Although the court dismissed the encryption allegations in the States' Complaint, the States did not allege, as publishers do here, that the encryption was the vehicle by which Google tied its DFP to the use of its AdX, thereby impairing competition in the Ad Exchange market.

18. Through Act 3, beginning in 2009 and continuing to the present, Google used its monopoly power in Ad Networks, to coerce publishers (primarily small- and medium-size publishers that do not meet the requirements for participating in Ad Exchanges) using its market dominant Google Display Network ("GDN") (the tying product) to use a Google Ad Server product (DFP or AdSense) (the tied product). This tying arrangement impaired competition in the Ad Server market, thereby contributing to and maintaining Google's monopoly in the Ad Server market.

19. Through Act 4, beginning in 2009 and continuing to the present, Google has used its monopoly power in Ad Servers to tie its dominant DFP and AdSense Ad Servers (the tying products) to its dominant Ad Network, GDN (the tied product). This tying arrangement impaired competition in the Ad Network market by maintaining and enhancing the monopoly power Google had through GDN.

20. Table 2 catalogues nine numbered elements of Google's Scheme, identifying the specific market in which Google exercises its monopoly power, the market at which the conduct is targeted, and the time periods involved, for the acts on which this Court specifically denied Google's motion to dismiss. These nine acts thus constitute conforming changes to Plaintiffs' Consolidated Class Action Complaint, filed April 5, 2020, in the Northern District of California. Following Table 2 are brief summaries of each conduct element.

Table 2
Google's Scheme of Anticompetitive Conduct on
Which the Court Has Denied Google's Rule 12 Motion

	Act	Period	Market Used	Markets Affected
5	Dynamic Allocation	2010-2019	Ad Server	Ad Exchange
6	Enhanced Dynamic Allocation	2014-present	Ad Server	Ad Exchange
7	Bernanke Versions	2013-present	Ad Exchange	Ad Exchange, Ad Network, Ad Buying Tools
8	Dynamic Revenue Share	2015-2019	Ad Server	Ad Exchange, Ad Network
9	Line-Item Limit	2018-present	Ad Server	Ad Exchange
10	Redacting Exchange Info	2018-present	Ad Server	Ad Exchange, Ad Network
11	Project Poirot	2018-present	Ad Buying Tools	Ad Buying Tools, Ad Exchange
12	Project Elmo	2018-present	Ad Buying Tools	Ad Buying Tools, Ad Exchange
13	Uniform Price Floors	2019-present	Ad Server	Ad Exchange, Ad Buying Tools

21. Through Act 5, a program it called "Dynamic Allocation", Google used its monopoly power in Ad Servers to rig its "waterfall" decision-making process to artificially advantage Google's AdX Ad Exchange, thereby contributing to and helping to maintain Google's monopoly power in the Ad Exchange market. In the waterfall, the Ad Server selects the winning bid from among competing Ad Exchanges and Ad Networks by selecting the first bid that exceeds the publisher's reserve or floor price. Initially, after it had acquired DoubleClick's

Ad Server, Google allowed publishers using that Ad Server to prioritize their sources of demand for advertising (from deals sold directly by the publishers and from auctions through one or more Ad Exchanges). But Google’s Dynamic Allocation, introduced in 2010 and continuing until 2019, overrode publishers’ prioritization by rigging the Google Ad Server waterfall to make it more likely that Google’s Ad Exchange would come out on top even if rival exchanges or a direct deal between the publisher and an advertiser returned (or would have returned if given the opportunity) a higher bid price. Google did this by giving its Ad Exchange both a first-in-line privilege and a last look, thereby maintaining and enhancing Google’s monopoly power in the Ad Exchange market.

22. Through Act 6, commencing in 2014 and continuing until the present, Google refined Dynamic Allocation in a program Google called “Enhanced Dynamic Allocation”, through which Google used its monopoly power in the Ad Server market to channel the highest value inventory of Google’s publisher clients exclusively to AdX. Enhanced Dynamic Allocation therefore had the effect of starving rival Ad Exchanges of scale and liquidity, impairing competition in the Ad Exchange market by further enhancing and entrenching Google’s monopoly power of its Ad Exchange product, AdX.

23. Through Act 7, commencing in 2013 and continuing until the present in some form, Google used its monopoly power in the Ad Exchange market to implement three successive versions of a program called Project Bernanke, using exclusionary conduct to rig the auctions in AdX in a way that enhanced its monopoly power and thus harmed both publishers and advertisers. Bernanke involved selectively and secretly inflating certain select advertiser bids made through its Ad Buying Tools and its Ad Exchange so as to impair competition in the Ad

Exchange, Ad Network and Ad Buying Tools markets, and thereby enhance and entrench Google’s monopoly power of its AdX, GDN and its Ad Buying Tools.

24. Through Act 8, Google introduced in 2015 and continued until sometime in 2019, a Dynamic Revenue Share (“DRS”) program, by which it used its monopoly power in the Ad Server market to adjust, where it needed to secure a winning bid by its AdX, the take rate it charged to publishers. A “take rate” is the amount of each transaction that Google charges publishers. The DRS program impaired competition and thereby enhanced Google’s monopoly power in the Ad Exchange market.

25. Through Act 9, beginning in 2018 and continuing until the present, Google used its monopoly power in the Ad Server market to throttle publishers’ use of Header Bidding. Header Bidding was a disruptive software code that publishers could add to their websites that would run real time auctions between multiple Ad Exchanges and/or Ad Networks. Header Bidding arose as a means to avoid Google’s exclusionary practices. Through Act 9, Google artificially capped publishers’ use of “line items”—an existing feature in DFP that publishers must use to receive bids from Ad Exchanges in Header Bidding—so as to penalize bids coming through Header Bidding. This conduct undermined Header Bidding and thereby artificially enhanced and maintained Google’s monopoly power in the Ad Server and Ad Exchange markets.

26. Through Act 10, beginning in 2018 and continuing until the present, Google used its monopoly power in the Ad Server market to redact auction records provided to publishers showing the relative success of Header Bidding compared to the performance of Exchange Bidding. This exclusionary conduct had the effect of impairing competition in the Ad Exchange

market, thereby maintaining and enhancing Google’s monopoly power in the Ad Exchange market.

27. Act 11, also called Project Poirot, began in 2018 and continued through the present. Through this conduct, Google used its monopoly power in Ad Buying Tools for large publishers, its DV360 product, to identify which rival Ad Exchanges were likely participants in Header Bidding and then to punish those non-Google Ad Exchanges by directing ad buys away from those Ad Exchanges and toward Google’s own AdX Ad Exchange. Project Poirot thus impaired competition and helped maintain and enhance Google’s monopoly power in both the Ad Buying Tools market for large advertisers and the Ad Exchange market.

28. Act 12, called Project Elmo, began in 2018 and continued through the present. Through Project Elmo, Google used its monopoly power in Ad Buying Tools for large publishers, its DV360 product, to augment the anticompetitive impacts of Project Poirot. Under Elmo, Google’s DV360 decreased ad spending on non-Google Ad Exchanges that Google had identified as likely participants in Header Bidding, impairing competition and thereby maintaining and enhancing Google’s monopoly power in both the market for Ad Buying Tools for large advertisers and the Ad Exchange market.

29. Through Act 13, beginning in 2019 and continuing until the present, Google’s Ad Server abandoned its longstanding prior practice of allowing publishers to submit different reserve prices to different Ad Exchanges, and instead imposed a uniform price floor across all Ad Exchanges. This change in policy, administered by Google’s dominant Ad Server, had the effect of artificially impairing Google’s Ad Exchange rivals, thereby impairing competition and maintaining and enhancing Google’s monopoly power in the Ad Exchange market.

30. Table 3 catalogues the three elements of the Scheme (Acts 14, 15, and 16) alleged by publishers here that the Court did not address because the States' Complaint did not allege them, using the same schematic as used in Tables 1 and 2. Those portions of this Amended Consolidated Complaint that address these elements are "non-conforming". Following Table 3 are brief summaries of each conduct element in this Table.

Table 3
Google's Scheme of Anticompetitive Conduct Not Yet Addressed by the Court

	Act	Period	Market Used	Markets Affected
14	Search+ and Variations	2011-present	Search advertising	Ad Network, Ad Exchange, Ad Server
15	Minimum Bid to Win	2018-present	Ad Server	Ad Exchange, Ad Buying Tools
16	Malicious Code	2017-present	Ad Server	Ad Network

31. Through Act 14, beginning in 2011 and continuing to the present, Google has used its monopoly power in online search advertising and its Ad Buying Tools used by small advertisers to constrain competition in the Ad Network market, which in turn impaired competition and contributed to Google's monopoly power in the Ad Network, Ad Exchange, and Ad Server markets.

32. Though Act 15, beginning in 2018 and continuing until the present, Google used its monopoly power in the Ad Server market, through a program it called Minimum Bid to Win, that enables advertisers to win ad impressions at suppressed prices when they use Google's Ad Buying Tools linked to Google's Ad Exchange. By artificially driving advertiser traffic away from Header Bidding and rival Ad Exchanges, Minimum Bid to Win impaired competition and maintained and enhanced Google's monopoly power in the Ad Exchange and Ad Buying Tools markets.

33. Through Act 16, beginning in 2017 or possibly earlier, Google used its monopoly power in the Ad Server market to inhibit use by small-to-medium sized publishers of rival Ad Networks through the false pretext of controlling problematic code, excluding rival Ad Networks from competing for ad impressions. Google's use of its Ad Server in this manner impaired competition and maintained and enhanced Google's monopoly power in the Ad Network market.

34. Through Acts (1)-(16), Google's Scheme generated a vicious cycle that increasingly impaired competition and benefited Google at the expense of publishers and advertisers in all of the Relevant Markets and Adjacent Relevant Markets. As Google's publisher Ad Server stacked the deck in favor of Google's Ad Exchange and Ad Network, it drove more advertisers to place bids through Google's Ad Exchange and Ad Network, because bids placed on Google's Ad Exchange and Ad Network were more likely to win a given ad impression than the same bid placed on a non-Google Ad Exchange or Ad Network. This exclusionary conduct, in turn, drew publishers to prefer Google's Ad Exchange and Ad Network because they provided access to more advertiser bidders. And because Google restricted access to its Ad Network and Ad Exchange products to publishers using Google's Ad Server, publishers were compelled to use the Google Ad Server even though its Ad Servers' business rules enhanced Google's dominance and further impaired competition by favoring Google's products. This cycle of synergistic exclusionary conduct obtained, enhanced, maintained, and reinforced Google's monopoly power in the publisher Ad Server, Ad Network, and Ad Exchange markets.

35. Google's internal documents reflect that Google itself recognized in 2013 the synergistic effects of its anticompetitive conduct in different markets, though Google called it the "virtuous circle": "By the way, the thing that connects these two is our Exchange - AdX -

without AdX, wouldn't have the network effect . . . more pubs from DFP means more attractive to advertisers . . . more advertisers means more desire for pubs to get on DFP . . . virtuous circle."

What was virtuous to Google was anything but to Google's customers and to Internet users.

36. In 2014, a major innovation in the online display ad business posed what Google itself acknowledged to be an "existential threat" to Google's monopoly power throughout the Ad Tech Stack. That innovation, software called "Header Bidding," enabled publishers to circumvent Google's Ad Server and other publisher tools by allowing publishers themselves to pit bids of multiple Ad Exchanges against each other in real time. In Header Bidding, Ad Exchanges and Ad Networks were finally able to bid on publishers' ad impressions in real time without Google's manipulations impairing their ability to submit live, competitive bids. This is what publishers had wanted because publishers maximize ad auction revenue by offering their inventories to as many advertisers as possible, simultaneously, and in real time. Engaging in auctions in that way allows advertisers to utilize Ad Exchanges and Ad Networks to top each other's bids until bidding stops with the winning bid. Header Bidding enabled these platforms to compete against each other in real time as well, rather than through the sub-optimal sequential waterfall bidding process used by Google's Ad Server.

37. Because of the implementation of Header Bidding, Google found that prices publishers were receiving for ad impressions on publishers' websites jumped by 40%. Header Bidding is so named because as a web page loads, the software solicits bids from multiple exchanges for the advertisement on that page and then conducts an auction to determine the winning ad.

38. Instead of competing with Header Bidding, Google instead used its monopoly power and anticompetitive Scheme to thwart it. Google did not allow its Ad Exchange or Ad

Network to participate in Header Bidding auctions, and instead introduced its own real time multi-exchange bidding product, Exchange Bidding, later renamed Open Bidding. Rather than using Exchange/Open Bidding to compete with Header Bidding on price or quality, a course Google considered but rejected, Google chose instead to refine its Scheme, primarily using its monopoly power in the Ad Server market to deploy multiple exclusionary means to thwart Header Bidding, and thus to maintain and enhance its monopoly power in the Ad Exchange and Ad Network markets.

39. Google's Scheme foreclosed competition from rivals, many of whom have exited the Relevant Markets, and so long as the Scheme continues, it artificially disadvantages current rivals and discourages potential entrants. Google's Scheme has been deliberately crafted to impair price competition and maintain and enhance its monopoly power in all Relevant Markets.

40. Google's Scheme has had devastating and wide-ranging anticompetitive effects. The Scheme artificially inflates the prices Google charges publishers and advertisers, deters innovation, excludes competition, and robs customers of quality products and their right to choose among competing alternatives.

41. As a direct result of Google's Scheme, publishers have suffered antitrust injury and damage in the form of Google's artificially inflated take rates on ad impressions sold using Google's products. In addition, publishers have suffered antitrust injury from reduced revenue from artificially suppressed bids. More specifically, Plaintiffs and members of the Classes have directly paid Google artificially inflated take rates, and directly received from Google artificially suppressed revenues for publishers' sale of ad impressions.

42. Google's unrivaled dominance in each Relevant Market and Adjacent Relevant Market and Google's illegal conduct, as alleged herein, has been setting off alarm bells

worldwide for many years. In October 2020, following a year-long investigation, the United States Department of Justice filed a civil antitrust lawsuit to stop Google from unlawfully maintaining monopolies in the search and search advertising markets and to remedy the competitive harms. These ongoing governmental investigations in the U.S. follow multiple antitrust inquiries worldwide, as well as antitrust-related penalties levied on Google by the European Commission, France, India, and Russia.

43. The practices challenged herein harm publishers, advertisers, and innovative companies that have created—or, in a competitive market could create—alternative advertising services and platforms. In the end, consumers lose: Publishers realizing lower advertising revenues produce less output and have fewer resources available for investment in innovation and other means of providing better products and information to consumers, resulting in lower quality.

44. Plaintiffs seek relief for themselves and two proposed Classes: (1) a class of publishers in the United States that sold ad impressions through Google’s Ad Exchange; and (2) a class of publishers in the United States that sold ad impressions through Google’s Ad Network.

45. Plaintiffs thus bring this class action, alleging violations of Sections 1 and 2 of the Sherman Act and of California’s competition laws, arising out of Google’s anticompetitive conduct aimed at publishers. Plaintiffs, on behalf of themselves and all those similarly situated, seek to ensure that competition, not Google’s anticompetitive rules and practices, governs the sale of online display advertising space on their websites through the publisher Ad Server, Ad Exchange, and Ad Network markets. Left unrestrained, Google will continue to act to maintain and enhance its monopoly power throughout the Ad Tech Stack, allowing Google’s excessive toll on publishers to continue unabated. If Google is allowed to maintain that control, there is no

end to Google's ability to charge publishers monopoly prices, suppress the revenues that publishers can get from selling display ad space on their websites, and thereby reduce the output and quality of content on the web. Further, left unabated, Google will continue to have the power to decide which publishers live and which die. Such an outcome cannot be permitted under federal and state antitrust laws.

PARTIES

46. Plaintiff Genius Media Group, Inc. (n/k/a MediaLab AI, Inc. and referred to herein as "Genius") was a Delaware corporation with its principal place of business at 1222 6th Street, Santa Monica, California. Established in 2009, Genius is a digital media company offering services such as the development and maintenance of a vast repository of annotated music lyrics, some of which are artist-supplied and many of which are transcribed and refined by a community of over two million Genius contributors. Genius has approximately 25-million advertising impressions per day and has earned tens of millions of dollars in annual advertising revenue over the last four years. Genius has used Google's publisher Ad Server and Ad Exchange products to sell the advertising space on its website, Genius.com. Genius thus directly paid Google for Google's Ad Server and Ad Exchange products. As a direct result of Google's misconduct as alleged herein, throughout the Class Period (defined below), Genius Media paid artificially inflated fees directly to Google and also received reduced advertising revenues directly from Google as a result of Google's misconduct and suffered economic damage and antitrust injury as a direct result. MediaLab AI, Inc. ("MediaLab"), a Delaware incorporated entity, acquired substantially all of Genius's assets in 2021, including the rights to prosecute this lawsuit and all of Genius's claims, and continues to operate Genius (Genius.com). MediaLab AI therefore continues this litigation on behalf of Genius.

47. Plaintiff Sterling International Consulting Group is a Delaware Corporation with its principal place of business in Statesville, NC. Sterling operates an ad-supported website that uses Google's AdSense, a publisher Ad Server, to identify the creation of ad inventory, obtains bids from the Google Display Network (Google's Ad Network), and fills the ad space on its website. Sterling thus paid Google to use Google's Ad Server and Ad Network products. As a direct result of Google's misconduct as alleged herein, throughout the Class Period, Sterling paid artificially inflated fees directly to Google and also received reduced advertising revenues directly from Google as a result of Google's misconduct and suffered economic damage and antitrust injury as a direct result.

48. Plaintiff The Nation Company, LLC, is a limited liability corporation organized in the state of New York, and having its principal place of business at 520 8th Avenue, 21st Floor, New York, New York 10018. The Nation operates an ad-supported website that uses a Google publisher Ad Server product to identify the creation of ad inventory, obtains bids from the Google Display Network (Google's Ad Network), and fills the ad space on its website. The Nation thus paid Google to use Google's Ad Server and Ad Network products. As a direct result of Google's misconduct as alleged herein, throughout the Class Period, the Nation paid artificially inflated fees directly to Google and also received reduced advertising revenues directly from Google as a result of Google's misconduct and suffered economic damage and antitrust injury as a direct result.

49. Plaintiff The Progressive, Inc. is a non-profit organization organized in the state of Wisconsin, and having its principal place of business at 30 W. Mifflin Street, Suite 703, Madison, WI 53703. The Progressive operates an ad-supported website that uses a Google publisher Ad Server product to identify the creation of ad inventory, obtains bids from the

Google Display Network (Google's Ad Network), and fills the ad space on its website. The Progressive thus paid Google to use Google's Ad Server and Ad Network products. As a direct result of Google's misconduct as alleged herein, throughout the Class Period, the Nation paid artificially inflated fees directly to Google and also received reduced advertising revenues directly from Google as a result of Google's misconduct and suffered economic damage and antitrust injury as a direct result.

50. Plaintiff JLaSalle Enterprises LLC is a New York limited liability company with its principal place of business in Bellmore, New York. JLaSalle operates an ad-supported website that uses Google's AdSense, a publisher Ad Server, to identify the creation of ad inventory, obtain bids from the Google Display Network (Google's Ad Network), and fill the ad space on its website. JLaSalle thus paid Google directly to use Google's Ad Server and Ad Network products. As a direct result of Google's misconduct as alleged herein, throughout the Class Period, JLaSalle paid artificially inflated fees directly to Google and also received reduced advertising revenues directly from Google as a result of Google's misconduct and suffered economic damage and antitrust injury as a direct result.

51. Plaintiff Mikula Web Solutions, Inc. is a small business incorporated in Pennsylvania, and having its principal place of business at 22 Charter Oak Court, Doylestown, PA 18901. Mikula Web Solutions operates one or more ad-supported websites that use Google's AdSense, a publisher Ad Server, to identify the creation of ad inventory, obtain bids from the Google Display Network (Google's Ad Network), and fill the ad space. Mikula Web Solutions thus paid Google directly to use Google's Ad Server and Ad Network products. As a direct result of Google's misconduct as alleged herein, throughout the Class Period, Mikula Web Solutions paid artificially inflated fees directly to Google and also received reduced advertising revenues

directly from Google as a result of Google's misconduct and suffered economic damage and antitrust injury as a direct result.

52. Defendant Google LLC is a Delaware limited liability company with its principal place of business at 1600 Amphitheatre Parkway, Mountain View, California 94043. Defendant Google is a wholly owned and controlled subsidiary of XXVI Holding Inc., which is a subsidiary of Defendant Alphabet. Since 2006, Google has wholly owned and controlled YouTube. Google is the alter ego and agent of Defendants Alphabet and YouTube, and the companies regularly combine and comingle their operations. For example, Google and YouTube share user data from their respective websites, google.com and youtube.com, in order to create new content and personalized advertisements on both sites.

53. Defendant Alphabet Inc. is a Delaware corporation with its principal place of business at 1600 Amphitheatre Parkway, Mountain View, California 94043. Defendant Alphabet wholly owns and controls Defendants Google and YouTube. Defendant Alphabet is the alter ego of Defendants Google and YouTube. Google and YouTube direct all profit to, and report revenue through, Alphabet. Defendant Alphabet is one of the top ten largest companies in the United States with more than \$162 billion in annual revenue. Alphabet, ranking 15th in the list of Fortune 500 companies, is traded on the NASDAQ under the symbol "GOOGL" and is included in the S&P 100 Index.

54. Defendant YouTube, LLC, is a Delaware limited liability company with its principal place of business at 901 Cherry Avenue, San Bruno, California 94066. YouTube is a wholly owned and controlled subsidiary of Defendant Google. Defendant YouTube is the alter ego of Defendants Google and Alphabet. Google and YouTube combine products for purposes of Google's AdWords advertising program, which allows an advertiser to determine that if a person

searches for a specific term on Google's search engine (*e.g.*, "financial advisor"), the advertiser can direct that the next time that user watches a video on YouTube that person will see an advertisement for financial advisory services. Google has recently begun testing integrating links to its search engine within YouTube's search results. According to YouTube's Terms of Service: "The entity providing the Service is Google LLC, a company operating under the laws of Delaware, located at 1600 Amphitheatre Parkway, Mountain View, CA 94043 (referred to as 'YouTube', 'we', 'us', or 'our'). References to YouTube's 'Affiliates' in these terms means the other companies within the Alphabet Inc. corporate group (now or in the future)."

55. Collectively, Defendants are operated and controlled as a single entity, with Sundar Pichai acting as the CEO. Not only did Google essentially create Alphabet as a holding company in 2015, but virtually all of Alphabet's revenues come from Google. YouTube, in turn, is a wholly owned subsidiary of Google and is controlled and operated as such. Alphabet filed its 10-K and 10-Q statements with the Securities and Exchange Commission, reporting consolidated revenues for all of the Defendants. In fact, these statements expressly define Alphabet as "Alphabet Inc. and its subsidiaries." *See, e.g.*, Alphabet Inc., Quarterly Report (Form 10-Q) (July 30, 2020), at 2.

56. All three Defendants engage in interstate commerce and in activities substantially affecting interstate commerce including, without limitation, providing ad tech services to publishers based throughout the United States and globally. Publishers, both foreign and domestic, use Google's ad tech services to sell space on their websites to advertisers to display digital ads, which are targeted at users across the United States. Each Defendant deals with and earns revenue directly from publishers throughout the United States.

JURISDICTION AND VENUE

57. This action arises under Sections 1, 2 and 15 of the Sherman Act, 15 U.S.C. §§ 1, 2, 15 and Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15 & 26.

58. This Court has subject matter jurisdiction over Sherman Act claims pursuant to 28 U.S.C. §§ 1331 & 1337 and Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15 & 26.

59. This Court has personal jurisdiction over Defendants. Google, Alphabet, and YouTube each maintain their headquarters in California.

60. Venue is proper in this District pursuant to Sections 4, 12, and 16 of the Clayton Antitrust Act, 15 U.S.C. §§ 15, 22, and 26, and 28 U.S.C. § 1391(b), (c), and (d). All Defendants reside, transact business, are found, and have agents in the Northern District of California and in this District.

61. Defendants' acts at issue here were within the flow of, were intended to have, and did, in fact, have a substantial effect on the interstate commerce of the United States.

FACTUAL ALLEGATIONS

I. DIGITAL ADVERTISING

62. The Internet reaches billions of people around the world and serves as a virtual marketplace for products, information, and ideas. Given the number of online visitors, this is an attractive forum for advertisers. Growing revenues derived from the sales of online or digital advertising space have driven the explosion of information available on the web since the first banner ad was displayed in 1993. Digital advertising is now the most rapidly growing segment of the advertising business in the United States, accounting for more than half of all advertising spending.

63. Before the Internet, companies wanting to advertise did so largely through print, radio, and television. Advertising then was sent to all consumers, regardless of their traits or

interests. The Internet has changed all that, through advertising that is increasingly finely targeted to specific consumers who are more likely both to click on the ads and to ultimately buy the advertised products or services.

64. Online or digital advertising consists of marketing advertisements, which are delivered through the Internet on both desktop and mobile devices.

65. Digital advertising takes several forms. For example, advertisements can be targeted to consumers, *inter alia*, as text-based ads to appear with search engine query results (“search advertising”), as display ads appearing in-line in publishers’ content such as blog posts or news articles (“display advertising”), or as ads in social media feeds.

66. Online advertising involves the use of the Internet as a medium to obtain website traffic and target and deliver marketing messages to the right users, customers, and consumers. In most cases, the decision of which ad is served/shown to the user is made in real time, in response to specific information such as the search term entered by the user (in the case of search advertising) or in response to information about likely characteristics of the person viewing the advertisement or the context of the page being viewed (in the case of display advertising).

A. Search Advertising

67. Search advertising comprises ads that are triggered to display when a user types that word or phrase into a search engine (e.g., “Goldendoodles” or “water sprinklers”).

68. Advertisers place a value on paid search ads because such ads are served to users only after they have made a query correlated with products or services related to the ad. On Google’s search engine platform, search ads typically appear at the top of the first page of results from a keyword search. Google hosts search advertising on other platforms as well—notably Google Play, Google Maps, and third-party applications.

69. Google has been dominant in the online search advertising market for roughly 17 years. Collectively, Google's products account for at least 70% of the search advertising market.

B. Display Advertising

70. Like search advertising, buying and selling display ads often involves real time bidding. Online display advertising campaigns are run through various pieces of advertising technology, or “ad tech.” One main piece is the “Ad Tech Stack,” which refers to the series of technologies on the Internet that place digital advertisements in front of the right user at the right time to maximize the chance for the ad to influence the user to take some desired action. Today, the Ad Tech Stack facilitates the automated selling and buying of digital ad inventory on a large scale in real time, as described in more detail below.

71. Unlike search advertising, which is triggered when a user expresses an interest in the product through a search inquiry, display advertising is designed to induce that interest by displaying ads on web pages likely to be frequented by potential customers. Since display ads are shown to specific users as they view a web page on their computer or mobile device, it is critical for the successful deployment of marketing spend for advertisers to have information about each prospect.

C. The Interplay of Search and Display Advertising

72. Advertisers purchase one format or another to serve their different goals. For instance, advertisers may purchase search ads to reach consumers actively looking to make a purchase by searching for a particular product or company. By contrast, advertisers may purchase display ads on a publisher’s site to increase brand awareness or to market a product to a consumer that put the product in her shopping cart but did not complete the purchase.

73. Publishers, which operate websites and mobile applications, are necessarily restricted in the types of ad formats they can sell. A news website, for example, can generally sell display ads alongside its news articles but cannot generally sell search ads to monetize the same content.

II. **HOW DIGITAL DISPLAY ADVERTISING WORKS**

74. Publishers sell their ad inventory to advertisers either directly through their marketing departments or indirectly through programmatic ad auctions. Approximately two-thirds of all online advertising dollars are spent via programmatic marketing.

75. The opportunity to display an advertisement to a user in a particular location on a webpage is known as an “impression”. The value of an impression depends upon both the characteristics of the user who is viewing the ad and the value of the real estate where it is embedded—that is, the content of the publisher’s webpage and the ad’s location on that page. Thus, the value of a publisher’s impression may be increased whenever an advertiser has additional information about the user. The publishers who can deliver the most desirable impressions in terms of quality of both the webpage and data on the user are able to charge more for impressions on their websites.

76. Digital display advertising may be sold on the basis of impressions, clicks, or other actions. Cost per impression means that advertisers pay the publisher for the number of times their ads are displayed as different users load the relevant webpage. Cost per click means that the advertiser pays the publishers each time a user clicks on an ad. Cost per action means the advertiser pays the publisher if an action, such as a product purchase or a registration for a service, results from a user’s exposure to the advertising.

77. Some large publishers with significant staffing and strong demand for their inventory are able to sell a limited number of advertisements directly to advertisers (so-called “direct-sold” ads). However, even those publishers that sell space directly to advertisers cannot always accurately predict how many spaces will be available for direct-sold ads because the amount of inventory is dependent on the number of users who visit the publisher’s website (as well as other factors specific to the publishers’ deals with advertisers, *e.g.*, specific criteria for which users or types of users would be targeted with the ads). Thus, selling inventory through programmatic or automated ad auctions permits publishers to sell their “remnant inventory” that either does not qualify for their direct-sold deals or where the programmatic placement is otherwise more desirable for the publisher than the direct-sold ad deals. As a result, direct-sold ads would not prevent a hypothetical monopolist from imposing a small but significant and non-transitory increase in price and are not reasonably interchangeable with programmatically sold ads at issue here. Additionally, some publishers sell the entirety of their inventories through programmatic ad auctions. In sum, programmatic or automated ads are a critically important source of advertising revenue for publishers.

78. Advertisers that want to display their ads and publishers wishing to sell space on their websites for the ads each have a familiar problem: finding each other. As part of that process, publishers need—in the blink of an eye—to determine what space on their websites is available for advertisement and how much they want to charge, and then communicate that information to advertisers—and ultimately decide which ads they are willing to host on their site. Publisher Ad Servers, Ad Exchanges, and Ad Networks enable publishers to accomplish these goals, most often through automation. This process—in which a user loads a webpage, the

auction occurs for any space for advertisement on that webpage, and the ad gets placed—is automatic (usually taking a few hundred milliseconds).

79. There are multiple ways for Ad Server, Ad Exchange, and Ad Network vendors to extract value from each transaction. For instance, Google, which dominates each market, may take directly from the publisher a percentage of the price that the advertiser pays, passing on the remainder to the publisher. Google also directly imposes surcharges, added fees, and periodic “flat” or “tiered” fees (such as several hundred thousand dollars per year) on publishers in various circumstances through its Ad Server, Ad Exchange, and Ad Network products.

80. The funds flow in the ad tech marketplace is opaque, with individual publishers and advertisers having only limited knowledge concerning the amount charged by a string of intermediaries. In the typical non-Google Ad Exchange transaction, an advertiser hires an ad agency, which charges a fee to the advertiser, to handle its ad placements. The ad agency utilizes an Ad Buying Tool, which charges a fee to the advertiser, to source inventory and place bids. The Ad Buying Tool bids on impressions publishers make available for sale on an Ad Exchange, which charges a fee (typically a percentage of the advertiser’s winning bid) directly to the publisher for this service when the impression is sold. Google, itself, refers to the fees charged by its Ad Exchange as a “sell-side” charge, *i.e.*, a charge to the publisher. The publisher’s Ad Server will also directly charge the publisher a fee, typically a monthly flat or tiered fee based on the volume of impressions sold. The publisher knows the end amount it receives from the intermediary for the sale of ad impressions and may or may not know the amount of the transactional fee(s) charged by the Ad Exchange directly to the publisher, but it has no knowledge of the original amount paid by the advertiser, or the fees charged by other intermediaries, *e.g.*, by Ad Buying Tools to the advertiser.

81. In the case of Exchange/Open Bidding, an auction process enabling Ad Exchanges to compete in real time against each other (introduced to compete with Header Bidding exchanges discussed below), the Google Ad Server makes the publisher's ad impression available for sale through Exchange/Open Bidding. Google's AdX and other non-Google Ad Exchanges and Ad Networks then compete in a real time auction to determine which advertiser via which Ad Exchange or Ad Network will win the right to place an ad in that ad impression. Once the winner is determined by Google's Ad Server, Google pays the publisher directly the net amount of the winning advertiser's bid. If Google's AdX was the winning Ad Exchange in the Exchange/Open Bidding auction, Google charges the publisher directly a fee for the use of Google's Ad Exchange. If a rival Ad Exchange or Ad Network wins the Exchange/Open Bidding auction, then Google directly charges the publisher a fee for using the rival Ad Exchange or Ad Network through Exchange/Open Bidding.

82. Similarly, when a publisher sells impressions through Google's Ad Network, Google charges the publisher directly for the use of its Ad Network. In the case of AdSense, Google charges the publisher directly a single fee (a percentage of the price of the ad impression) for filling the ad impression. When a publisher uses DFP to connect directly to the Google Display Network, Google directly charges the publisher a fee for selling the ad impression through the Google Display Network and also separately and directly charges the publisher for use of Google's Ad Server.

A. The Relevant Participants in the Ad Tech Stack

83. Publishers use software, called an Ad Server, to make their impressions available for sale. The publisher's Ad Server: (1) determines which ads to display on the publisher's website; (2) solicits and organizes bids from advertisers; (3) serves the ad to the user; and (4)

collects and reports on additional data such as impressions and clicks, which is used to determine the cost to the advertiser and the amount of money paid to the publisher. A more detailed description of the publisher Ad Server market is provided in Section III.A.1.a. The functions of the Ad Server include (1) identifying the availability of impressions for sale, (2) determining how to sell such impressions (*e.g.*, through direct deals between publishers and advertisers, or by determining between multiple Ad Exchange or Ad Network options the publisher may elect), and (3) optimizing the revenue for the publisher using the Ad Server. Google's Ad Servers (for large and small publishers) are and have been for some time the dominant providers of publisher Ad Server services.

84. Ad Exchanges are platforms enabling publisher Ad Servers to offer their inventory of impressions for sale, and advertisers to place bids on the impressions they wish to purchase. Ad Exchanges match advertisers and publishers programmatically using virtually instantaneous auctions known as "real time bidding".

85. The Ad Exchange is the middleman that takes a cut of the price reached by the publisher and advertiser. However, Ad Exchanges are only available to larger publishers with substantial volumes of ad impressions for sale each month.

86. Smaller publishers with fewer page views and impressions than the Ad Exchange thresholds may use an Ad Network to sell their inventory of impressions. An Ad Network is an aggregator that collects ad inventory from multiple publishers and sells it to advertisers. Like Ad Exchanges, Ad Networks compete against one another on the basis of price for publisher inventory.

87. Thus, the publisher's view of the Ad Tech Stack looks like this:



Figure 1: The Ad Tech Stack

88. A key consideration for publishers in selecting a publisher Ad Server is the demand (*i.e.*, the advertisers) the Ad Server can access—and on what terms. Publishers want their Ad Server to access the largest number of advertisers including those willing to submit the highest bids. Publishers also want their impressions to be available to multiple Ad Exchanges and Ad Networks because different Ad Exchanges and Ad Networks may have different data concerning the publisher's user that makes participating advertisers more interested in bidding on specific impressions. Conversely, if a publisher Ad Server cannot access significant pools of advertisers, the publisher Ad Server cannot compete effectively in the market against Google's publisher Ad Server. Because Google has such a large share of advertisers that exclusively purchase display ads through Google's Ad Exchange and Ad Network, and because Google restricts access to its advertiser pool only to those publishers using Google's Ad Server, publishers have no choice but to use Google's publisher Ad Server. *See, e.g.*, discussion in Sections III.A.1, III.B.1-4, and IV.A, *infra*. Once the publisher is locked into Google's Ad Server, Google coerces publishers to use its Ad Network and/or Ad Exchange, thereby enhancing its monopoly power in each product market. *Id.* Moreover, once a publisher chooses a publisher Ad Server and embeds that technology in its website, there are high costs to publishers of switching Ad Servers because they become integral parts of publishers' websites.

89. This case also involves several Adjacent Relevant Markets that affect both publishers and advertisers. Two of those markets are Ad Buying Tools for large and small

advertisers. These Ad Buying Tools optimize bidding and campaign strategies for advertisers. Advertisers must have these tools to bid for impressions on Ad Exchanges and Ad Networks. Google dominates both these markets, as discussed further in Sections III.B.5-6.

90. Online search advertising is another Adjacent Relevant Market, albeit one that is distinct from display advertising. Google's long-time dominance in the online search advertising market is relevant to this matter because Google has used its power in this market to acquire and maintain monopoly power in three markets for display advertising—Ad Networks, Ad Exchanges, and Ad Servers—also as set forth further in Section IV.C.1.

B. How Online Display Ads Are Selected and Delivered

91. Ads are chosen and shown to users via a sequence of events, all typically completed in less than a second. The processes differ slightly depending on whether the publisher is a large publisher that participates in one or more Ad Exchange or a small- or medium-size publisher that participates only in Ad Networks.

92. In the case of large Ad Exchange-eligible publishers, for an ad to be displayed to a user visiting a webpage, the publisher's Ad Server, the user's browser, or a combination of the two, reach out to Ad Exchanges and Ad Networks to request bids from interested advertisers on the created ad impressions. These bid requests often contain information about the content the user is accessing, the user who loaded the webpage, and the size and prominence of the space in which the ad impression will appear. After interested advertisers place their bids through Ad Buying Tools on an Ad Exchange, each Ad Exchange selects the winning bid and transmits that bid to the publisher's Ad Server. Ad Networks operate similarly, identifying the advertiser willing to pay the most for a given impression through auction or auction-like processes, and supplying the amount the Ad Network is willing to pay to the publisher based on the results of

such processes. The Ad Server applies programmed-in decisioning logic to determine which Ad Exchange or Ad Network's bid prevails and serves the winning bidder's ad to the publisher's user.

C. Google Enters the Ad Tech Business by Acquisition

93. Since its founding in 1998, Google has acquired more than 227 companies, spending over \$27 billion for its top 10 acquisitions. Rather than growing organically, Google has grown through strategic acquisitions to yield products, manpower, and patent portfolios that directly and indirectly feed its online advertising business revenue.

94. Google's first and most significant such acquisition was its 2007 purchase of DoubleClick for \$3.1 billion. Google purchased DoubleClick as a means of entering the markets for providing services within the Ad Tech Stack. DoubleClick provided publisher Ad Server services and operated the largest Ad Exchange. The DoubleClick products formed the basis of Google's ad tech offerings in ensuing years. As Google's submission to the United States House of Representative's Subcommittee on Antitrust, Commercial, and Administrative Law acknowledged, prior to the DoubleClick acquisition, Google had "no meaningful presence" in the Ad Tech Stack. A July 2006 Google presentation suggested that, by acquiring DoubleClick, Google could obtain "self-reinforcing benefits" for Google's planned digital ad "ecosystem".

95. The Federal Trade Commission, which conducted a competition assessment of the merger, observed the potential for future "unlawful tying or other anticompetitive conduct". Ultimately, the FTC approved the merger, but the warnings and concerns at the time proved prescient.

96. Indeed, the DoubleClick acquisition was instrumental in initially building Google's stronghold in the lucrative online advertising industry. In addition to DoubleClick

software, Google also acquired relationships with web publishers, advertisers, and agencies, beating a host of other potential buyers like Microsoft to the acquisition. DoubleClick has been enormously successful for Google, with roughly 80% of Alphabet's \$258 billion in revenues in 2021 coming from its advertising business.

97. Google followed its DoubleClick acquisition with additional ad tech properties, including, but not limited to (1) its acquisition for \$750 million in November 2009 of AdMob, a company with technology for serving ads in mobile apps that Google now uses AdMob to offer publisher Ad Server services in mobile apps; and (2) its acquisition in 2011 of AdMeld, one of the largest supply-side platforms, which Google integrated into its auction platforms.

98. These and other acquisitions created and/or solidified Google's product offerings throughout all Relevant Markets and Adjacent Relevant Markets in the Ad Tech Stack.

D. Google Dominates All Levels of the Ad Tech Stack

99. Google has expanded its offerings throughout the Ad Tech Stack so that today it controls digital advertising from top to bottom. Google now controls virtually every part of the digital advertising chain, with over 90% of ad impressions transacted through the Ad Tech Stack passing through at least one Google service, and with over 70% of impressions transacting through Google products at each level of the Ad Tech Stack as of 2020. Google's potential rivals in the markets comprising the Ad Tech Stack are all small and fragmented.

100. Once Google seized control over the Ad Tech Stack, it also shrouded the entire process of buying and selling ads in secrecy. A House Antitrust Report in 2020 recognized that "this process lacks transparency".²

² *Investigation of Competition in Digital Markets, Majority Staff Report and Recommendations*, H. R. Subcomm. on Antitrust, Com. & Admin. L. of the Comm. on the Judiciary (2020) (hereinafter "House Antitrust Report") at 129–30.

101. Google deliberately structures its transactions with publishers relating to the publisher services it provides thereby limiting the information publishers receive which makes it difficult for market participants to see the full extent of misconduct in Google’s auction processes.

102. Since Google purchased DoubleClick (including its Ad Server) in 2007, through the conduct alleged herein, Google’s has been able to grow its market share to approximately 90% of the publisher Ad Server market. Google’s dominance of the publisher Ad Server market makes it a gatekeeper for publishers’ revenues and puts Google in charge of publishers’ critical advertising and sales decisions.

103. Google has used its dominance in the publisher Ad Server market along with its monopoly power in multiple other Relevant Markets and Adjacent Relevant Markets, through the Scheme alleged herein, to become the dominant display Ad Exchange, with a market share of over 70% of impressions sold through Ad Exchanges by 2020.

104. Google is also the dominant display Ad Network (the “Google Display Network”), with a market share of 70% of impressions sold through Ad Networks.

105. Google is dominant in all three Adjacent Relevant Markets—buying tools for large and small advertisers—and search advertising. Google controls a dominant pool of small- and medium-sized advertisers that buy exclusively through Google’s Ad Buying Tools tool Google Ads (formerly known as AdWords). Google’s Ad Buying Tools tool for large advertisers, Google Display and Video 360 (“DV360”), likewise exercises a dominant market share. Together, Google’s Ad Buying Tools were used to buy an estimated 80-90% of ad impressions in 2020. Because Google controls such a dominant pool of advertisers through its buying tools and makes those advertisers’ bids available solely through Google’s Ad Exchange

and Ad Network, publishers must do business with Google to participate meaningfully in the Relevant Markets. Aware of that bind, Google makes its Ad Exchange and Ad Network available only to publishers who use its Ad Server by tying its Ad Server with its Ad Exchange.

106. Today, Google stands as the dominant provider of tools to publishers at all levels of the Ad Tech Stack, with market power at each stage of that marketplace, with its estimated share of impressions in 2020:

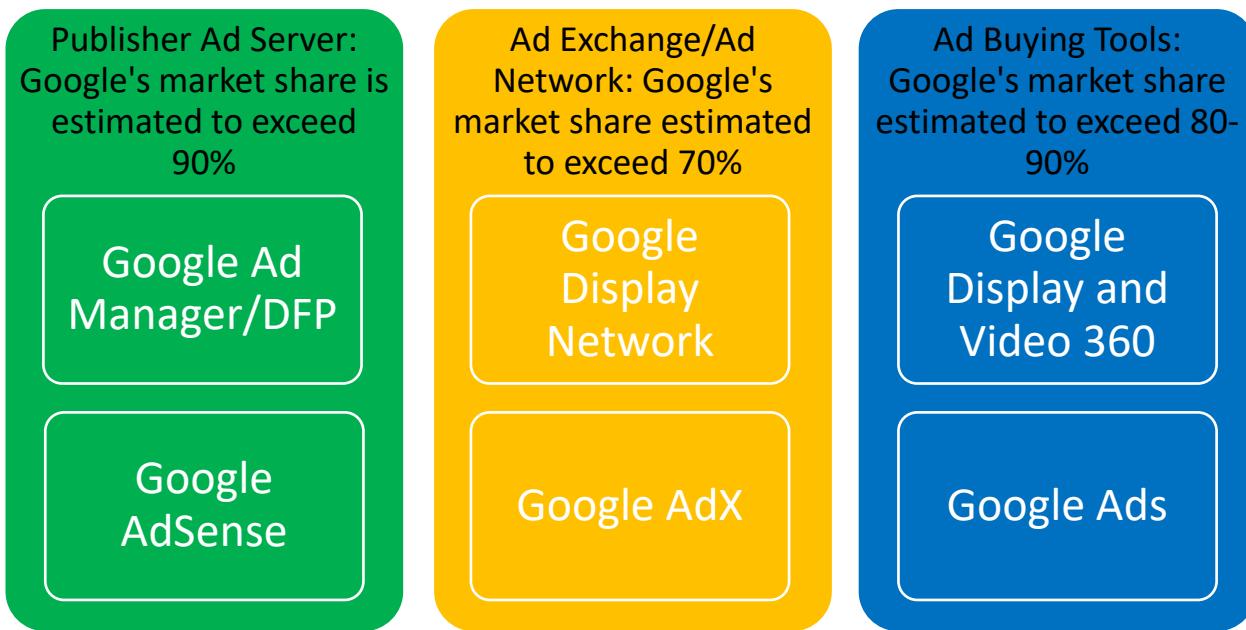


Figure 2: Google's Estimated Market Share at Each Level of the Ad Tech Stack

E. Google's Substantial Market Power on Both Sides in the Ad Exchange and Ad Network Markets is Compounded by Indirect Network Effects.

107. Ad Exchanges and Ad Networks are subject to indirect network effects. This means that as the number of users on one side of the platform increases, because of Google's exclusionary conduct disadvantaging rival Ad Networks and Ad Exchanges, access to the platform becomes necessary to users on the other side of the platform.

108. Thus, as the number of advertisers using Google's Ad Exchange has grown, giving rise to more potential bidders on impressions, more publishers are pushed to use Google's

Ad Exchange. Similarly, as the number of publishers offering impressions on Google's Ad Exchange has grown, increasing the inventory of impressions available on that Ad Exchange, more advertisers are encouraged to use Google's Ad Exchange. Each additional advertiser increases the importance of Google's Ad Exchange to all publishers using it. Likewise, each additional publisher increases the importance of Google's Ad Exchange to all advertisers using it.

109. These same indirect network effects are present in the Ad Network market as well. As greater numbers of advertisers purchase through an Ad Network, the more publishers are pushed to use that Ad Network. Similarly, as the number of publishers selling inventory through an Ad Network increases (which increases the inventory of impressions), the more advertisers need to purchase inventory through that Ad Network (because it enhances their ability to reach audiences). The Google Display Network, Google's Ad Network, reaches more user impressions and websites than any other display network, including over two million publishers globally, providing Google with unparalleled scale among publishers. In terms of advertisers, Google routes the bids of its small- and medium-size advertiser clients, who generally exclusively use Google's Ad Buying Tool Google Ads, to the Google Display Network. The Google Display Network connects directly to Google's AdSense, which provides Ad Server services for small- and medium-size publishers, and purchases ad impressions from those publishers. The Google Display Network also submits bids to AdX, providing access for Google's large publisher clients to the Google Ads advertisers through Google's Ad Network.

III. GOOGLE HAS MONOPOLY POWER IN THE RELEVANT MARKETS

A. The Relevant Markets

110. Google provides tools to both publishers and advertisers to participate in what the industry the industry calls “display advertising”—as opposed to video advertising or search advertising, which use different technologies that are not substitutable with the technologies publishers use for their display advertising across the Internet.

111. Display advertising comprises two channels: owned-and-operated platforms and what is referred to as “open display advertising.” The owned-and-operated channel consists of social media platforms like Facebook and e-commerce giant Amazon, which are each vertically integrated in that they sell their own advertising inventory (i.e., ad impressions available on Facebook’s and Amazon’s own web properties) directly to advertisers through proprietary, integrated interfaces referred to in the industry as “walled gardens.” Google, however, operates not just in such an isolated space, but instead has created advertising tools and advertising services for both third-party publishers and advertisers in the open display advertising marketplace. Owned-and-operated platforms and the open display advertising marketplace are not reasonable substitutes for each other and are not viewed as such by advertisers or publishers.

1. Publisher Tools Markets

112. This case focuses on the markets for three publisher tools products: publisher Ad Servers, Ad Exchanges, and Ad Networks.

a. Publisher Ad Servers

113. Publisher Ad Servers are the means and “decision engine” for determining which advertisements to display. They are the inventory management systems that publishers use to holistically manage their online display advertising inventory—the ads alongside publishers’

web content—impose and administer the rules for offering advertising impressions for sale, and selecting which ad to display. Publisher Ad Servers provide features such as: (1) the ability to solicit and organize bids from sources of advertising demand (*i.e.*, direct-sold ads, Ad Exchanges, and Ad Networks); (2) reservation-based sales technology to support a publisher’s direct sales efforts; (3) inventory forecasting technology to help a publisher determine what inventory will be available to sell; (4) a user interface through which a publisher’s sales team can input directly sold campaign requirements; (5) co-management of direct and indirect sales channels; (6) report generation of ad inventory performance; (7) invoicing capabilities for a publisher’s direct campaigns; and (8) yield management technology.

114. In the market for publisher Ad Servers, publishers purchase the Ad Server services from providers, such as Google. No other service is substitutable for, or reasonably interchangeable with, an Ad Server from the perspective of publishers.

115. In other words, if a hypothetical entity with monopoly power in the Ad Server market imposed a small but significant non-transitory increase in price for its publisher Ad Server, sufficient publishers would not replace the Ad Server function with another product or service so as to make the price increase unprofitable.

b. Ad Exchanges

116. Ad Exchanges match two different categories of customers (advertisers and publishers). They provide a service like a clearinghouse or auction house that is distinct from the publisher Ad Server product, which connects publishers to Ad Exchanges and Ad Networks and which controls whether and how certain advertising content is delivered from the publisher’s website and displayed to the website’s viewer.

117. If a hypothetical entity with monopoly power with respect to Ad Exchanges implemented a small but significant increase in the price it would not cause a sufficient number of publishers to switch to another product so as to cause that price increase to be unprofitable. No other product or service provide a real time auction marketplace with the unique features and access to advertising demand that Ad Exchanges do.

118. Ad Exchanges are also not reasonably interchangeable with direct ad sales channels. Selling digital display ad inventory directly requires publishers to invest substantially in managing, selling, and serving online ad campaigns, which is an expensive proposition for publishers. Similarly, direct sales channels do not access the same pool of advertisers as Ad Exchanges because buying inventory directly from publishers also requires advertisers to invest in and maintain internal staff to manage the direct ad purchases. As a result, the direct sales channel features only the highest-value publisher-advertiser transactions. Moreover, the direct sales channel functions as a complement to Ad Exchanges for those publishers and advertisers large enough to engage in those transactions, with Ad Exchanges filling the publishers' inventory not otherwise sold through the direct sales channel. Thus, a small but significant non-transitory increase in the price of Ad Exchanges would not cause sufficient publishers to switch to direct sales to make the price increase unprofitable.

c. Ad Networks

119. Ad Networks offer fewer services than Ad Exchanges and are a separate product market serving a different group of customers. Rather than providing all the targeting and bidding features of Ad Exchanges, Ad Network placements are made based on a pool of advertising inventory. Because they do not have the sophisticated targeting and bidding features inherent in Ad Exchanges, Ad Networks largely cater to smaller publishers and smaller

advertisers as compared with Ad Exchanges. In fact, Ad Exchanges typically have high monthly impression requirements that prevent small- and medium-sized publishers from selling impressions through Ad Exchanges at all. Such publishers are entirely dependent on Ad Networks to sell their programmatic inventory.

120. Similarly, Ad Networks are not reasonably interchangeable with publisher Ad Servers or Ad Buying Tools for large or small advertisers. As set forth above, publisher Ad Servers primarily identify the creation of ad inventory on publishers' websites and solicit bids to fill that inventory. Ad Networks are one place Ad Servers may turn to fill that inventory. Thus, Ad Exchanges and Ad Networks perform different, but related functions. Advertiser buying tools are not substitutable for Ad Networks from the perspective of publishers because Ad Buying Tools serve different customers (advertisers) and perform a different function, working to facilitate advertisers' purchases in Ad Exchanges. Therefore, a small but significant non-transitory increase in the price of a hypothetical monopolist's Ad Network's services would not cause a sufficient number of publishers to switch to an Ad Exchange, Ad Server, or an Ad Buying Tool, to make that price increase unprofitable because none of those other products provides publishers using Ad Exchanges with reasonably comparable services.

d. Relevant Geographic Market for Publisher Tools

121. The relevant geographic market for all three publisher tools is the United States, or in the alternative, predominantly English-speaking countries of the United States, Canada, the United Kingdom, and Australia.

122. Publishers seek out publisher Ad Server services based on the service provider's ability to connect the publisher with advertisers that would seek to target the publisher's users. Because publishers sell ad impressions to advertisers based on, *inter alia*, the location of the

publishers' users, the geographic market's scope is determined by the publishers' targeted consumer geographies, here, the United States, or in the alternative, predominantly English-speaking countries of the United States, Canada, the United Kingdom, and Australia. A publisher Ad Server that could not connect publishers with a significant pool of advertisers seeking to target American (or alternatively, English-speaking) consumers could not generate auction returns that rivaled publisher Ad Servers that could deliver such advertiser demand.

123. The relevant geographic market for Ad Exchanges and Ad Networks is the United States. Ad Exchanges and Ad Networks that are only available in other countries are not substitutes for Ad Exchanges and Ad Networks located in the United States. The overwhelming majority of publishers and advertisers that use Ad Exchanges and Ad Networks in the United States are trying to connect to supply and demand that is also located in the United States. Publishers can get the most money for their ad impressions by placing ads that are relevant to users that visit their website. Similarly, advertisers can get the most return on investment by placing ads adjacent to content that is relevant or shares the same brand security concerns as the advertiser. Accordingly, Ad Exchanges and Ad Networks that connect publishers to demand or that connect advertisers to supply that do not share the linguistic, cultural, and commercial characteristics are not substitutes for Ad Exchanges and Ad Networks that do.

124. Moreover, in ad tech markets, including the Ad Exchange, Ad Network, and Ad Server markets, speed is a critically important factor. The entire process of generating impressions when a user loads a webpage to serving an ad to that user takes place in under one second. Having the various components of the Ad Tech Stack (including the Ad Exchange, Ad Network, and Ad Server) located in a relatively centralized geographic area, here the United States, maximizes the speed with which these products interact and complete the ad placement

process. Ad Servers, Ad Exchanges, and Ad Networks located outside the United States would introduce additional network latency issues that could counteract a price increase by a hypothetical monopolist in the United States in one or more of those markets.

2. Adjacent Relevant Markets: Advertiser Tools Markets

125. In addition to representing publishers with various publisher tools products, Google also provides Ad Buying Tools for large and small advertisers, respectively.

126. Ad Buying Tools enable advertisers to set various parameters essential in making their automated purchasing decisions, including important details relating to the types of users they want to target and the maximum bids they are willing to submit for various types of display ad inventory.

a. Ad Buying Tools for Large Advertisers

127. Web display Ad Buying Tools for large advertisers in the United States constitute a relevant antitrust market. These tools provide an interface for large advertisers or their trading desks and ad agencies (collectively, “large advertisers”) to bid on and purchase open web display ad impressions on Ad Exchanges and Ad Networks. Ad Buying Tools for large advertisers allow advertisers to optimize their campaigns to achieve their campaign objectives, including purchasing the best quality inventory on Ad Exchanges for the lowest prices.

128. The Ad Buying Tools for large advertisers provide a range of product features over and above the six features common to the corresponding tools for small advertisers, outlined below. These commonly include: (a) the ability to conduct substantially more complex and precise site-, user-, and audience-based targeting; (b) the ability to utilize more of an advertiser’s own proprietary data; and (c) the ability to create and deploy highly customized bidding strategies across marketplaces.

129. The Ad Buying Tools for large advertisers require dedicated and specialized teams of people to manage. The bidding and trading options are so complex that they frequently are not used or managed in-house by the actual advertiser, but rather usually are managed by the advertiser's specialized team at a third-party ad agency, or a specialized agency division called a "trading desk".

130. Ad Buying Tools for large advertisers exhibit unique entry and usage requirements. Unlike Ad Buying Tools for small advertisers, these tools for large advertisers typically have very high monthly minimum spend requirements.

131. Internally, Google describes the unique types of customers who license the Ad Buying Tools for larger advertisers as "large buyers" such as "agencies", "Trading desks", and "large advertisers" themselves.

132. Ad Buying Tools used by large advertisers are a relevant product market for antitrust purposes because these tools have no reasonable substitutes. A hypothetical monopolist imposing a small but significant and non-transitory increase in the price (or decrease in quality of) buying tools for large advertisers above a competitive level would not cause a sufficient number of customers to switch to other means of buying display inventory (such as Ad Buying Tools for small advertisers that lack the same targeting and bid tracking features), or to switch to Ad Servers, Ad Exchanges, Networks, or advertising on social media sites or Amazon, such that the price increase would be unprofitable.

133. Ad Buying Tools for large advertisers are also not interchangeable with the directly sold ads. Neither are buying tools for large advertisers interchangeable with Ad Servers, web networks, in-app mediation tools, in-app networks, or exchanges. Those products do not

provide advertisers with tools to optimize ad campaigns and purchase web display inventory across Ad Networks and Ad Exchanges.

134. Nor would purchasing a different form of advertising (*e.g.*, in-stream video, social media, search, and in-app) be a viable substitute for advertisers. Advertisers regard each of these ad formats as distinct and noninterchangeable, typically choosing the appropriate format depending on the goals of a particular ad campaign.

135. Competition authorities in other countries have recently recognized that Ad Buying Tools for large advertisers are not interchangeable with other products. For instance, the UK CMA found that these tools offered unique functionality and are not interchangeable with Ad Exchanges, Ad Networks, or Ad Servers.

b. Ad Buying Tools for Small Advertisers

136. Small advertisers use pared down Ad Buying Tools relative to those used by larger advertisers, which provide small advertisers with a user interface to: (1) set up their display ad campaigns; (2) input and modify their particularized bidding strategies (*e.g.*, their maximum bids for particular types of inventory); (3) specify particular websites they would like their ads to run on; (4) specify the types of audiences they want to target (such as users defined by geography, education level, interests, or parental, marital, or homeownership status, among other criteria); (5) acquire campaign performance reports; and (6) adjust campaign parameters, including budget, maximum bids, list of websites, and user targets to optimize campaign performance over time. Given the parameters set by the advertiser, the Ad Buying Tool for small advertisers automatically bids on the advertiser's behalf for ad inventory trading on an Ad Exchange or Ad Network. These tools are generally unable to bid on inventory that is available only outside of an Ad Exchange or Ad Network, such as on Facebook.

137. The Ad Buying Tools for small advertisers offer the only way these advertisers can display their advertisements to users across the open web, such as websites whose inventory is available via an Ad Exchange or Ad Network.

138. Ad Buying Tools for small advertisers have minimal usage requirements. For instance, Google's product in this market—Google Ads—has no minimum monthly spend requirement. Accordingly, Ad Buying Tools for small advertisers, which low or no minimum monthly spending requirements serve a unique set of customers who otherwise are priced out of the more sophisticated buying tools for large advertisers. Examples of customers for Ad Buying Tools for small advertisers include lawyers, real estate agents, plumbers, builders, doctors, barber shops, start-ups, and car dealerships.

139. Because they do not have the resources available to larger advertisers, smaller advertisers tend to use buying tools from one provider – that is, they “single home”. Google's “Google Ads” is the largest Ad Buying Tool for small advertisers.

140. Google recognizes, internally and through sales training materials, that the customers served by Ad Buying Tools for small advertisers (such as Google Ads) are unique and distinct from the set of customers served by its Ad Buying Tools for large advertisers (DV360).

141. Ad Buying Tools used by smaller advertisers are a relevant product market for antitrust purposes because these tools have no reasonable substitutes. A hypothetical monopolist imposing a small but significant and non-transitory increase in the price (or decrease in quality of) buying tools for small advertisers above a competitive level would not cause a sufficient number of customers to switch to other means of buying display inventory (such as an Ad Buying Tool for large advertisers), or to switch to Ad Servers, Ad Exchanges, Ad Networks, or advertising on social media sites or Amazon, such that the price increase would be unprofitable.

142. Ad Buying Tools for small advertisers are unique and not interchangeable with the Ad Buying Tools for large advertisers. As above, buying tools for large advertisers usually require dedicated and specialized teams to manage; also, they typically require high minimum spend requirements. By contrast, Google's Ad Buying Tool for small advertisers (Google Ads) has thousands of small advertisers in the United States spending several hundred dollars or less a month on display.

143. Neither are Ad Buying Tools for small advertisers interchangeable with Ad Servers, Ad Exchanges, or Ad Networks, each of which serve different customers, have different features sets, and exhibit different entry and usage requirements.

144. Ad Buying Tools for smaller advertisers are not interchangeable with the directly sold ads. Google and other industry participants recognize that the indirect sales channel is distinct from the direct sales channel. Moreover, purchasing advertising through direct deals is not generally a possibility for small advertisers, owing to the high minimum spend requirements and the resources needed to negotiate deals directly with publishers.

145. Nor would purchasing a different form of advertising (*e.g.*, in-stream video, social media, search, and in-app) be a viable substitute for small (or large) advertisers. Advertisers regard each of these ad formats as distinct and noninterchangeable, typically choosing the appropriate format depending on the goals of a particular ad campaign. An advertiser requiring display advertising would not switch to in-stream video, social media, search, or in-app ads in response to an increase in the price or degradation of the quality of an Ad Buying Tool for purchasing open web display advertising.

146. Neither are Ad Buying Tools for small advertisers interchangeable with tools for purchasing social media advertising, such as from Facebook. While advertisers can, of course,

use Facebook's buying tool ("Facebook Ads") to purchase display ads on Facebook properties (on facebook.com), they cannot use it to purchase inventory on other publisher websites on the open web (such as wsj.com or dallasnews.com). Nor can they use Facebook's tools to carry out the crucial functions of an Ad Buying Tool for small advertisers, including purchasing display ads across sites (such as on both wsj.com and nytimes.com) or optimizing those purchases towards the sites producing the best return on investment (such as by narrowing their campaign to just wsj.com if it produces better brand lift for them).

147. Similarly, Ad Buying Tools for small advertisers are not interchangeable with any tools offered by Amazon for purchasing ad inventory. While Amazon offers an Ad Buying Tool for large advertisers, that tool has a minimum monthly spend requirement of \$35,000, which makes it uneconomic for small advertisers to use and thus not a substitute.

c. The United States is the Relevant Geographic Market for Advertiser Tools

148. The relevant geographic market for Ad Buying Tools serving both larger and smaller advertisers is the United States. The overwhelming majority of large and small advertisers that use Ad Buying Tools in the United States are trying to bid on and purchase ad impressions on publishers' websites that are based in the United States targeted at users located in the United States. Advertisers can get the most return on investment by placing ads adjacent to content that is relevant to or shares the same brand security concerns as the advertiser. Accordingly, Ad Buying Tools for large advertisers that connect advertisers to ad inventory that do not share the linguistic, cultural, or commercial characteristics of the advertiser are not substitutes for Ad Buying Tools for large advertisers that do.

149. Further, advertisers who use Ad Buying Tools for large advertisers in the United States are subject to different regulatory and legal systems that affect their choice of buying tool.

Laws and regulations concerning competition, user privacy, and deceptive trade practices vary from country to country, so advertisers in the United States cannot use an Ad Buying tool that does not operate in a way that is consistent with their regulatory obligations.

150. Likewise, network latency based on geography also affects what Ad Buying Tools advertisers choose. Advertisers prefer to use Ad Buying Tools that are hosted on servers within a reasonable geographic distance from the Ad Exchange or publisher's Ad Server. Accordingly, Ad Buying Tools located outside the United States could not return bids to publishers in the United States in a timeframe that would be competitive with Ad Buying Tools advertisers located in the United States use. Nor could Ad Buying Tools for advertisers located outside the United States transmit bid responses to Ad Exchanges in a timeframe that would be competitive with Ad Buying Tools located within the United States.

151. Google tracks its share of Ad Buying Tools by country because it acknowledges that users from different nationalities have different levels of demand for DV360. Google's tracking suggests that Google believes that advertiser demand for Ad Buying Tools in the United States is distinct from the demand for Ad Buying Tools regionally and globally.

152. A hypothetical monopolist imposing a small but significant and non-transitory increase in the price of Ad Buying Tools for advertisers from a competitive level in the United States would not cause a sufficient number of customers to switch to Ad Buying Tools for advertisers outside of the United States such that the price increase would be unprofitable. Ad Buying Tools for advertisers in other countries that are not available in the United States offer impressions adjacent to content that is often undesirable, irrelevant, or not brand safe for advertisers located in the United States. Accordingly, Ad Buying Tools available in other

countries that are not available in the United States are not reasonable substitutes for Ad Buying Tools available in the United States.

d. Adjacent Relevant Market: Online Search Advertising

153. Online search advertising in the United States is another adjacent relevant antitrust market. The online search advertising market consists of all types of ads generated in response to online search queries, including general search text ads (offered by general search engines such as Google and Bing) and other, specialized search ads (offered by general search engines and specialized search providers such as Amazon, Expedia, or Yelp).

154. Search ads enable advertisers to target marketing messages in real time in response to queries entered by a consumer. Thus, a user's general search query has the important function to an advertiser of revealing the searcher's intent. The ability of search ads to respond to consumer inquiries, at the moment the consumer is investigating a subject relevant to an advertiser's product or service, makes these ads highly valuable to advertisers and distinguishes them from other types of advertising that cannot be similarly targeted, whether online or offline.

155. Other forms of advertising are not reasonably substitutable for search ads. For example, "offline" ads such as newspaper, billboard, TV, and radio ads cannot be targeted at a specific consumer based on the consumer's real time, self-disclosed interests. Similarly, other forms of online ads, such as display ads or social media ads, do not enable advertisers to target customers based on specific queries and are generally aimed at consumers who are further from the point of purchase. As Google's Chief Economist explained: "One way to think about the difference between search and display/brand advertising is to say that 'search ads help satisfy demand' while 'brand advertising helps to create demand,'" and "[d]isplay and search advertising are complementary tools, not competing ones."

156. Few advertisers would find alternative sources a suitable substitute for search advertising. If a hypothetical entity with monopoly power in the online search advertising market imposed a small but significant non-transitory increase in price for online search advertising, sufficient advertisers would not replace online search advertising with another product or service so as to make the price increase unprofitable. Thus, there are no reasonable substitutes for online search advertising, and an online search advertising monopolist would be able to maintain prices above the level that would prevail in a competitive market.

157. The United States is a relevant geographic market for online search advertising. Market participants recognize this in the ordinary course of business. For example, Google offers advertisers the ability to target and deliver ads based on the location of consumers in the United States, and Google search is customized for particular countries. Google also separately tracks revenue for the United States.

B. Google Has Monopoly Power in all Relevant Markets and Adjacent Relevant Markets

1. Google has monopoly power in the Ad Server market

158. Google has monopoly power in the Ad Server market as shown by its dominant market share. By 2010, after the DoubleClick Ad Server acquisition, Google's share of the Ad Server market had grown to 78%; by 2012, Google's share of the Ad Server market grew to 85%; and by 2015, Google's market share had grown to 90%. By the second quarter of 2018, Google internal documents showed that its Ad Server had a 99% market share among large publishers. The United Kingdom's Competition & Markets Authority ("CMA") (the U.K.'s antitrust authority) found in 2020 that Google had between 90% and 100% of the publisher Ad

Server market, as measured by the money advertisers paid to place ads within U.K. publishers' content.³ The Australian Competition and Consumer Commission found similarly.⁴

159. Google's employees recognize the 90% market share held by Google's Ad Server. Other market participants, including Facebook, also believe that Google has a monopoly in the Ad Server market.

160. Google's power in the Ad Server market serving has increased and become entrenched as competing Ad Servers have exited the market. When Google urged the FTC to clear its acquisition of DoubleClick, it argued that several competing Ad Servers constrained its ability to increase price or decrease quality; these included WPP's 24/7 Real Media Ad Server, Microsoft's Atlas/aQuantive Ad Server, and ValueClick's Ad Server. All of those competitors have since exited the market. Moreover, additional Ad Server competitors have also exited the market, including Ad Servers offered by Yahoo!, Verizon (previously AOL), and OpenX.

161. Today, the primary non-Google Ad Server remaining in the United States is Xandr, which has a negligible market share.

162. Although Google's DFP Ad Server (now bundled with AdX) principally serves large publishers, small- and medium-size publishers also license the DFP Ad Server, usually because such publishers have direct deals with advertisers and need an Ad Server that can determine whether to serve a direct-sold ad or to call out to an Ad Network to sell the ad impression. Other small- and medium-size publishers use Google's AdSense product which

³ See Online Platforms and Digital Advertising, Market Study Final Report (July 2020), available at https://assets.publishing.service.gov.uk/media/5fa557668fa8f5788db46efc/Final_report_Digital_ALT_TEXT.pdf.

⁴ See Digital Advertising Services Inquiry, Final Report (Sept. 28, 2021), available at <https://www.accc.gov.au/system/files/Digital%20advertising%20services%20inquiry%20-%20final%20report.pdf>.

bundles Ad Server services with the ability to sell exclusively to Google's Ad Network. Regardless, Google's DFP and AdSense products are functionally the only Ad Server products available for small- and medium size publishers too.

163. As reflected herein, Google has the power to artificially inflate Ad Server prices, restrict output, degrade its Ad Server's quality (e.g., by funneling impressions to Google's intermediary Ad Exchange and Ad Network even when other Ad Exchanges and/or Ad Networks could deliver a higher price, and by preventing other Ad Exchanges and Ad Networks from using User ID information needed to optimize bids for the Ad Server's publisher clients, which results in lower revenues), and exclude competitors.

164. Thus, irrespective of the size of the publisher, Google dominates and has monopoly power in the market for Ad Servers.

2. Google's Monopoly Power in the Ad Exchange Market

165. Google has monopoly power in the Ad Exchange market in the United States, as confirmed by both indirect and direct evidence. Since 2010, Google's Ad Exchange has had substantial market power because its small advertiser customer base—hundreds of thousands of advertisers using Google's monopoly buying tool for small advertisers, Google Ads, for submitting bids for publisher ad impressions—is significant and unique, and not available through any other Ad Exchange. Collectively, these small advertisers bidding through Google Ads on AdX accounts for at least 44 billion web display transactions per month in the United States and about 30% of monthly transactions across all exchanges in the United States. To put inventory up for bid to this pool of advertisers in an Ad Exchange, publishers must transact in Google's Ad Exchange: Google routes the advertisers' bids only to Google's Ad Exchange and the advertisers typically single home on the Google Ads Ad Buying Tool.

166. Publishers who would forgo Google's Ad Exchange and the demand from Google Ads advertisers would see substantial decreases in the number of bids for their inventory, the number of impressions they sell, and the amount of revenue they generate. One large publisher assessed that not transacting in Google's exchange would reduce monthly revenue by up to one-third, or by \$1.4 million per month, with half of that revenue coming from advertisers using Google Ads. Another large publisher found that demand from Google Ads advertisers accounted for 45% of revenue earned through Google's exchange and 24% of the revenue earned through the indirect sales channel overall, which totaled millions of dollars per year. The significance and uniqueness of Google Ads demand render Google's Ad Exchange a "must have" for publishers.

167. Google touts this "must have" selling point to publishers, stating that "higher yield starts with access to demand AdX is the only platform with direct access to the entirety of [Google Ads] demand". Elsewhere, Google explains that AdX offers "massive demand" with "seamless access to [Google Ads]".

168. The importance of Google's must-have advertising demand, along with the demand from large advertisers, is reflected in the dominance of Google's Ad Exchange. Since at least 2014, Google's exchange has been the largest exchange; it has been used by the most publishers, and it has transacted the most impressions. In 2014, industry trade publication Digiday observed that "Google is the operator of the largest Ad Exchange, AdX."

169. In the twelve months leading up to October 2019, AdX transacted over 60% of all display inventory sold through exchanges in the United States. Since then, Google has expanded its power in the Ad Exchange market, with AdX's share of impressions increasing even further in the wake of Google's imposition of uniform pricing rules in 2019, discussed below, just as Google internally predicted.

170. Indeed, one of Google’s Ad Exchange rivals, Rubicon, estimated that AdX held 64% of the market available to exchanges in terms of advertising spend in 2019 and that this share was expected to grow to 69% by 2023 at the expense of other exchanges. Between 2018 and 2019, the increase in AdX’s transacted revenue was about five times the value of the increase for Xandr, further amplifying the relative size difference between AdX and its closest competitors. Moreover, these rival exchanges cannot offer publishers access to Google Ads demand.

171. Australia’s competition authority estimated that Google’s supply-side platform or “SSP” (another term for an Ad Exchange) in 2020 accounted for over 70-80% of ad impressions in that country, another English-speaking country whose market is similar to that of the United States.⁵ In 2020, Google estimated that it had roughly two-thirds of the auction market on the web (*i.e.*, the Ad Exchange market).

172. Direct evidence also confirms Google’s monopoly power in the Ad Exchange market. Google’s Ad Exchange has the power to control prices. Since at least 2016, Google’s exchange has charged supracompetitive prices, with an average take rate of 20% of the transaction value per ad impression. Google charges much more—at least double—than its closest Ad Exchange competitors.

173. That Google’s Ad Exchange take rate has been impervious to competition from its rivals is yet another source of direct proof of Google’s Ad Exchange monopoly power. In 2016, following widespread adoption of Header Bidding, discussed at various points in this Complaint, Rubicon, a non-Google Ad Exchange, slashed its take rate in half, to 10% to 12% while Xandr,

⁵ Australian Competition and Consumer Commission, DIGITAL ADVERTISING SERVICES INQUIRY, FINAL REPORT, 2021, at 54. <https://www.accc.gov.au/system/files/Digital%20advertising%20services%20inquiry%20-%20final%20report.pdf>.

another non-Google Ad Exchange, had a take rate averaging an even lower 8.5%, yet each of these rival Ad Exchanges was unable to materially increase their market share. At the same time, Google's Ad Exchange maintained or even increased prices, and even increased its market share. Google's 2018 internal documents observed, "Recent market dynamics ... are putting pressure on the 20% fee and it is becoming more clear that the market bears the fee primarily because of the exclusive access to our [Google Ads] demand." Nevertheless, Google did not reduce its average Ad Exchange take rate from 2017 to 2020, and in 2019 actually increased its Ad Exchange take rate for third-party buyers by one to two percentage points, representing a 6% to 10% price increase relative to the 2017 rates. That Google did not lower its Ad Exchange take rates during this time—and instead increased them without losing market share—demonstrates that Google's Ad Exchange has control over price, which is direct evidence of its monopoly power.

174. Moreover, Google's Ad Exchange has not lost market share even though its customers perceive its exchange to be of lower quality than other Ad Exchanges on key dimensions. A 2018 survey asked publishers to evaluate Ad Exchanges across various dimensions of quality. Google trailed competing Ad Exchanges in all five of the key quality dimensions and ranked last in two of the five key dimensions. Notably, Google ranked last in the measure of "alignment with publisher goals and needs". In 2019, a column in AdExchanger observed that publishers continue to use Google's Ad Exchange not because of superior quality, but because of "the demand that Google brings through its buy-side and exchange-related dominance". According to a survey of publishers by Advertiser Perspectives (an advertising industry business intelligence agency), Google's exchange is the "dominant gateway for online advertising", Google's exchange is "always No. 1". and it has "real dominance".

3. Google's Monopoly Power in the Ad Network Market

175. Google has monopoly power in the Ad Network Market. Google describes its network (the Google Display Network, or “GDN”) as “the largest Ad Network in the world”.

176. Google Ads, Google’s Ad Buying Tool for small publishers, buys predominantly if not exclusively through GDN. Thus, like Google’s Ad Exchange, GDN enjoys a significant and unique pool of advertisers that are a “must have” outlet for publishers seeking to sell their ad impressions—particularly those publishers without sufficient monthly impression volume to sell impressions on Google’s Ad Exchange.

177. For publishers that do not have sufficient monthly impression volume to sell impressions on Google’s Ad Exchange, GDN dominates the market. No other Ad Network brings a comparable scope of demand to purchase ad impressions.

178. The Australian Competition and Consumer Commission found that Google’s share of impressions transacted through Ad Exchanges and Ad Networks combined in 2020 was 70%-80%. Given that Google’s share of impressions transacted through Google’s Ad Exchange was 70%-80% and that, like the Ad Exchange market, the Ad Network market transacts in billions of dollars of ad impressions annually, Google’s implied share of impressions transacted through Ad Networks is also 70%-80%. Because the Australian Ad Network market is similar to the United States Ad Network market—*e.g.*, both apply to English-speaking publications and advertisers, both are in developed nations with similar website users, and both have significant similarities in terms of market structure and participants—Google’s Ad Network market share is estimated to be 70%-80% in the United States as well.

179. Moreover, because some Ad Networks are specialized, in that they focus on a particular type of inventory (such as video) or are topic-specific Ad Networks (such as

automotive Ad Networks, fashion Ad Networks), and some Ad Networks buy impressions through Ad Exchanges and thus buy through channels unavailable to small- and medium-size publishers that do not qualify for Ad Exchange participation, Google's market share will tend to understate Google's effective market power, particularly over small- and medium-size publishers. Indeed, publishers cannot reasonably turn to many of the rival Ad Networks that make up the non-Google proportion of the market because they will be unable to sell ad impressions on these niche rival Ad Networks or through the Ad Exchanges through which some Ad Networks buy. For example, a publisher operating a website concerning sweepstakes will not have sufficient success selling ad impressions through a fashion-specific Ad Network to make such an Ad Network a reasonable substitute for Google's Ad Network. And a publisher that does not qualify for participation in Ad Exchanges could not sell their impressions to the Facebook Audience Network through Google's Open Bidding program.

180. Further, Google's retail margin or take rate for publishers selling ad impressions through GDN is supracompetitive. For example, Google's take rate on impressions sold through AdSense (and thus necessarily through GDN) is 32%. According to one industry report, this take rate is almost 1.5 times the margin of rival Ad Networks. Google's ability to charge a supracompetitive take rate on its Ad Network is direct evidence of its monopoly power in the Ad Network market.

4. Google's Monopoly Power in its Publisher Tools Markets Is Protected by High Barriers to Entry and Pricing Opacity

181. Google's market positions in the publisher Ad Server, Ad Exchange, and Ad Network markets are protected by high barriers to entry. For instance, publishers who might look to switch products face high switching costs because these Ad Server products must be programmatically and technologically built into the publishers' operations. Moreover, any

potential Ad Server rival seeking to gain market share at Google's expense must be able to deliver a pool of advertisers that would participate in non-Google auctions and generate comparable revenue to Google's auctions. Given that Google already has in excess of 70% of each of these markets, and uses the anticompetitive tactics alleged herein to protect those shares, the chances of any one rival gaining sufficient share to be a true competitive threat are exceedingly low.

182. Google provides limited pricing information to publishers, which also protects its monopoly power in each of the publisher tools markets. Thus, even if there were competing publisher Ad Server, Ad Exchange, and Ad Network products for publishers to switch to, those products would have significant difficulty in demonstrating to publishers that switching is worthwhile because Google makes direct price comparisons nearly impossible.

183. These barriers inhibit entry and expansion by potential competitors in the publisher Ad Server, Ad Exchange, and Ad Network markets, evidencing Google's monopoly power.

5. Google has monopoly power in the Ad Buying Tools market for large publishers

184. Google's Ad Buying Tool for large publishers, DV360, is the largest such tool for large advertisers in the online display market in the United States. Google acquired DV360 by purchasing the Demand Side Platform, or DSP, DSP Invite Media.

185. Google's DV360 is by far the largest DSP operating in the United Kingdom, according to the 2020 CMA Report, with 40-50% of the market in 2019, by ad revenue, excluding AdWords (which caters to small advertisers, as outlined below). CMA reports that the share of DV360 increased from 2018 to 2019. The estimated market share of the second largest competitor to DV360 in the United Kingdom, is Trade Desk, is 10-20%. No other competitor

comes close.⁶ The Australian Competition and Consumer Commission reported that Google's Ad Buying Tools traded 80-90% of impressions sold and 60-70% of all revenue earned by Ad Buying Tools.

6. Google has monopoly power in the Ad Buying Tools market for small publishers

186. Google also has had monopoly power in the United States in the market for Ad Buying Tools for small advertisers since 2009, as confirmed by both indirect and direct evidence.

187. Since 2009, Google Ads has served far more advertisers than any other competing Ad Buying Tool in the United States. In 2010, 600,000 small and medium size businesses in the United States used Google Ads. Since then, the number of advertisers using the tool to purchase display inventory has increased exponentially. At all relevant times, competing Ad Buying Tools for small advertisers served far fewer advertisers.

188. Most Ad Buying Tools for small advertisers have exited the display business entirely, leaving advertisers without alternatives to Google Ads. Facebook previously offered an Ad Buying Tool for small advertisers to purchase display inventory across the open web (separate from its Ad Buying Tool for purchasing inventory on Facebook's owned and operated properties), but Facebook exited the market and stopped offering this Ad Buying Tool in 2020. Amazon does not offer a tool that small advertisers can use to purchase open web display inventory. In 2012, Google internally compared Google Ads to eight competitors; out of those eight competing Ad Buying Tools, not even one still operates as an Ad Buying Tool for small advertisers.

⁶ CMA (2020), p. 268. https://assets.publishing.service.gov.uk/media/5fa557668fa8f5788db46efc/Final_report_Digital_ALT_TEXT.pdf

189. Google Ads also has monopoly power because small advertisers, unlike large advertisers, almost always single home. Using multiple Ad Buying Tools at the same time would impose substantial additional time and capital costs small advertisers are generally unable to bear. When deciding which Ad Buying Tool to use, most small advertisers choose Google Ads because it is the only way to purchase display across the Google Display Network. Indeed, the recent competition reports from both the ACCC and the UK CMA confirm that small advertisers primarily single home, most often on Google Ads.

190. Google Ads' market power is protected by at least two critical barriers to entry and expansion. First, Google Ads charges opaque fees and does not let advertisers readily audit the ad inventory Google purchases on their behalf. Without a legitimate mode of comparison, this practice hinders and discourages small advertisers from switching to a lower-cost or higher-quality Ad Buying Tool for small advertisers. Second, advertisers use Ad Buying Tools to keep track of the users they have targeted with ads, the users that have made purchases, and the users that they want to keep targeting with more ads. Google Ads limits advertisers from accessing and taking this data with them to a rival Ad Buying Tool. As a result, small advertisers are locked in and have high switching costs. A small advertiser looking to switch to a different Ad Buying Tool would typically need to start over from scratch after abandoning the valuable data and intelligence they otherwise accumulated in Google Ads.

7. Google has monopoly power in the Online Search Advertising market

191. Google has monopoly power in the online search advertising market. Based on public estimates of total search advertising spending in the United States, Google's share of the U.S. online search advertising market is over 70%. This market share understates Google's

market power in search advertising because many search-advertising competitors offer only specialized search ads and thus compete with Google only in a limited portion of the market.

192. Google's monopoly power in the online search advertising market is derived, at least in part, from Google's dominance in the provision of online search engine services. Google's search engine runs over 90% of all search queries in the United States. Only Google sells the ad impressions that appear on those search results pages. As a result, Google controls access to the vast majority of ad impressions in the Online Search Advertising market.

193. There are barriers to entry in the search advertising market that protect Google's advertising monopolies. Search advertising of any kind requires a search engine with sufficient scale to make advertising an efficient proposition for businesses. Specialized search engines require significant investment, including the cost of populating and indexing relevant data, distribution, developing and maintaining a search algorithm, and attracting users. Search advertising of any kind also requires (1) a user interface through which advertisers can buy ads, (2) software to facilitate the sales process, and (3) a sales and technical support staff. These barriers to entry are substantial and insulate Google's monopoly in search advertising from effective competition.

IV. GOOGLE'S EXCLUSIONARY SCHEME

194. As set forth above, Google has market or monopoly power in each of the Relevant Markets and in each Adjacent Relevant Market. As described below, Google has engaged in a Scheme using a series of actions to obtain, maintain, and enhance that monopoly power in each of those markets.

195. Google's Scheme involves the sixteen elements of conduct summarized in Tables 1-3, *supra*. Google used illegal two-way ties to acquire and maintain monopoly power in each of

the Ad Server, Ad Exchange, and Ad Network markets (summarized in Table 1, *supra*, and described in more detail in Section IV.A., *infra*). Google augmented its ties with additional acts, some of which the Court has upheld in connection with the States' Complaint (summarized in Table 2, *supra*, and described in more detail in Section IV.B., *infra*), and some of which the Court has yet to consider (summarized in Table 3, *supra*, and described in more detail in Section IV.C., *infra*).

A. Google's Illegal Two-Way Ties (Act 1-Act 4)

196. Google's Scheme has included, from at least 2009 to the present, two sets of illegal, related, and mutually reinforcing "two-way" tying arrangements, aimed at large and small-to-medium publishers, respectively. In combination, these tying arrangements have enabled Google to acquire and maintain monopoly power in the three publisher tools markets: the Ad Server, Ad Exchange, and Ad Network markets. The Court has addressed the first of these ties, what this Complaint labels as Act 1, by rejecting Google's effort to dismiss it from the States' Complaint. The other three ties are addressed in sequence here as Act 2, Act 3, and Act 4. To summarize these four illegal ties:

- Act 1: Tying of Google's Ad Exchange (AdX) (the tying product) to its Ad Server (DFP) (the tied product);
- Act 2: Tying its Ad Server for large publishers (DFP) (the tying product) to its Ad Exchange product (the tied product);
- Act 3: Tying its Ad Network (Google Display Network) (the tying product) to its Ad Server offerings to small- and medium-size publishers (DFP and AdSense) (the tied products); and,
- Act 4: Tying its Ad Servers available to small- and medium-sized publishers (AdSense and DFP) (the tying products) to its Ad Network (Google Display Network) (the tied product).

197. In essence, Google's four ties ensure that Google coerces any publisher that wants to use Google's intermediaries (Ad Exchange and Ad Network) to use a Google Ad Server, and

coerces any publisher that uses Google's Ad Server to use one or more of Google's intermediaries.

198. These four ties were and are not competition on the merits; nor were or are they the product of superior skill, foresight, or historical accident. The sole purpose and main effect of these ties has been to destroy competition.

1. Google's Initial Ad Exchange/Ad Server Two-Way Ties (Act 1 and Act 2)

199. Google's Act 1 and Act 2 are designed to, and did, tie Google's Ad Exchange, AdX, to Google's Ad Server, DFP, and *vice versa*. These acts concern large publishers eligible for Ad Exchanges.

200. From 2009 (when Google introduced its Ad Exchange) to 2018 (when Google combined its Ad Server and Ad Exchange into a single product, as discussed shortly), Google accomplished Act 1 by requiring publishers to use Google's Ad Server in order to receive live, competitive bids from Google's Ad Exchange. Act 1 involved the use of Google's monopoly power in the Ad Exchange market to impair competition in the Ad Server market.

201. During the 2009-2018 period, Google formally sold its Ad Server and Ad Exchange products separately, marketing to large publishers eligible for Ad Exchange participation: (1) DoubleClick for Publishers (DFP), an Ad Server; and (2) AdX, an Ad Exchange.

202. AdX was the only Ad Exchange where publishers could access live, competitive bids from advertisers that use Google's monopoly Ad Buying Tool known as Google Ads (formerly known as AdWords). Google Ads is the only buying tool used by hundreds of thousands of advertisers (due in significant part to the Search+ program discussed in Section IV.C.1, *infra*) and represents a "must have" source of demand for publishers that constitutes more than 30% of all exchange-traded transactions between 2018 and 2019 (and on information

and belief in earlier years as well). According to a study Google performed in 2013, receiving static bids from AdX instead of live, competitive bids could decrease publishers' revenues by a factor of 20% to 40%. Publishers themselves have reached similar conclusions. For example, one publisher reportedly abandoned plans to switch from Google's Ad Server in 2017 because of the tie (Act 1), after determining the loss of live, competitive AdX bids because of the tie would cost the publisher several million dollars annually.

203. Through Act 1, Google deliberately restricted the ability of publishers using a non-Google Ad Server to sell ad impressions through Google's Ad Exchange. Pursuant to the Act 1 tie, Google allowed only AdX to return live, competitive bids to publishers that used Google's DFP Ad Server. Google's restriction operates as a tie that coerces publishers, all of whom need to receive live, competitive bids from AdX, to license Google's DFP Ad Server.

204. Act 1 forced almost every large publisher to use Google's Ad Server, because losing 20% to 40% of ad revenue is an untenable outcome for any publisher. Google forced publishers to choose between using Google's Ad Server and losing the ability to receive live, competitive bids through Google's Ad Exchange (which could only be accessed with Google's Ad Server), and thereby coerced publishers to use Google's Ad Server. And because it is difficult-to-impossible for a publisher to use multiple Ad Servers simultaneously, Google's tie (Act 1) effectively prohibited publishers from using a non-Google Ad Server.

205. Through Act 2, Google also tied its DFP Ad Server (as the tying product) and AdX (as the tied product). Google imposed this Act 2 tie at the same time that it initially launched its Ad Exchange (and has imposed it in connection with its Ad Network since even earlier). Google used Act 2 to get its Ad Exchange in the door: to ensure that AdX could bid on all impressions, and then put Google in the position to use the other elements of the Scheme to

suppress competition from other Ad Exchanges (e.g., Act 5-13 and Act 14). Google effectuated and reinforced this Act 2 tie in numerous ways.

206. As set forth *infra*, Google used its Ad Server to manipulate auctions to drive ad impressions to be sold on Google’s Ad Exchange, even when publishers configured the Ad Server to seek bids from other Ad Exchanges and/or Ad Networks that would have submitted higher bids but for Google’s manipulations. For example, using Act 5, Act 6, and Act 8, Google prevented other Ad Exchanges from even bidding on impressions to the extent Google’s AdX could beat the historical average of the other Ad Exchanges and Ad Networks from which publishers configured Google’s Ad Server to solicit bids. Even when those Ad Exchanges and Ad Networks were permitted to bid, Google manipulated its bids and take rates to prevent those non-Google Ad Exchanges and Ad Networks from winning publishers’ ad impressions and thereby cemented Google’s Ad Exchange as the winner.

207. Further, following the acquisition of DoubleClick, Google began encrypting the user identifier (“User ID”) that the DoubleClick Ad Server (DFP) assigned to publishers’ users, allowing such User ID to be decrypted only by Google’s ad buyers who bid through in Google’s AdX (and/or buyers who participated in Google’s Google Display Network). By encrypting these User IDs, Google precluded advertisers and publishers from mutually identifying their repeat customers and effectively ensured that only Google’s Ad Exchange had access to a critical piece of data that advertisers use to target their advertisements.

208. In the online display advertising market, the value of an impression can be heavily affected by the extent and nature of information available about the viewer or user of the publisher’s webpage, including any characteristics or known preferences that might make that user more likely to purchase a particular product or service.

209. When an impression is made available for purchase through an Ad Exchange or Ad Network, both the publisher, via its Ad Server, and the intermediary Ad Exchange or Ad Network will provide substantive information about the user in order to inform advertisers about the impressions on which they are bidding. When more specific information about the user is made available, a broader range of advertisers will be interested in purchasing the impression, and the impression will be more valuable. As a result, in order to effectively compete in the online advertising marketplace, Ad Exchanges and Ad Networks must maximize the amount and quality of information they have about users of the ad impressions being sold.

210. Google has likewise long recognized internally that “pitting multiple exchanges against one another fostered price competition”, which generated higher returns for publishers. One reason for these higher prices when multiple Ad Exchanges are pitted against each other is that each may offer distinct and different information about the user.

211. For example, assume user Jane Smith is reading the New York Times webpage on Travel. The New York Times knows that Jane Smith is 35, that she reads articles about outdoor sports, financial markets, environmental concerns, and wellness. The New York Times offers Jane Smith’s impression for sale on Google’s Ad Exchange, on Rival Ad Exchange1, and on Rival Ad Exchange2. Google’s Ad Exchange knows that Jane Smith has also expressed an interest in backpacks, throwback hockey jerseys, and Asian cuisine. Rival Ad Exchange1 has previously auctioned a Jane Smith impression, and so knows that he bought a kayak—a fact unknown to Google’s Ad Exchange. Rival Ad Exchange2 has never encountered Jane Smith before, so it has no additional information to add to the transaction. Advertiser Premium Paddle Boards accesses Jane Smith’s impression via all three exchanges. While Google has more information to add to the transaction than either of its competitors, the information provided by

Rival Exchange1 that Jane Smith has previously purchased a kayak makes it much more likely that she is going to purchase a paddle board as well, so Premium Paddle Boards submits a bid substantially higher than those submitted by other advertisers and wins the impression.

212. As reflected in this example, the critical piece of information for Ad Exchanges and Ad Networks seeking to connect their advertiser clients to a given impression is the identity of the user – in the form of a “User ID” – to which the advertisement will be displayed. User IDs are thus a critical piece of data for publishers and advertisers alike, both for purposes of ad targeting and for purposes of campaign tracking and attribution.

213. As Google has long recognized internally, one of the “basic pillars of ad serving” is “Optimization”, which means obtaining the highest return for the publisher’s ad impressions.

214. As a result, an Ad Server seeking to accomplish the basic function of optimizing revenues for Ad Server customers (publishers) would seek to ensure that all Ad Exchanges (and Ad Networks) from which the Ad Server solicits bids have access to the information needed to maximize participating advertisers’ bids.

215. Google’s Ad Server encrypts User IDs and allows only advertisers bidding through its proprietary intermediaries (*i.e.*, its Ad Exchange and Ad Network) to access the publishers’ own critical user information. In so doing, Google degrades the value of its Ad Server to its Ad Server consumers, publishers, and thereby ceases to perform one of the most basic functions of a publisher Ad Server—namely, advertising optimization, which, as a result of the Act 2 tie, was possible only if publishers used Google’s Ad Exchange and Ad Network. In other words, Google requires that in order for a publisher using Google’s Ad Server to get the Ad Server to perform the most basic of Ad Server functions, the publisher must sell its ad impressions exclusively on Google’s Ad Exchange or Ad Network. This conduct amounts to a

coercive tie between publishers' use of Google's Ad Server (the tying product) and Google's Ad Exchange and Ad Network (the tied products). In other words, a publisher using Google's Ad Server must use Google's Ad Exchange in order for the Ad Server to perform one of its most basic Ad Server functions.

216. By refusing to share publishers' own user data with non-Google Ad Exchanges, Google's Act 2 tie has a massive deleterious effect on the ability of non-Google Ad Exchanges to submit bids that compete with Google's AdX, and thus substantially impaired Google's rivals in the Ad Exchange market. For example, in a 2018 Google study, Google found that the prices for ad space trading on Google's Ad Exchange dropped by 50+% when advertisers could not identify the user. Similarly, the Index Exchange shared that the number of bids for ad space on Mozilla's Firefox browser dropped by 38% after the Firefox blocked cookies publishers and advertisers use to identify users. And when Apple started blocking ad tech from identifying users in its Safari browser, Rubicon (the operator of a non-Google Ad Exchange) found that the clearing prices on Safari pages dropped by 60% overall.

217. In short, Google's Act 2 tie of its market dominant Ad Server to its Ad Exchange blocked non-Google Ad Exchanges and Ad Networks from accessing the User ID of publishers' users, which IDs reflected publishers' own user data. In other words, when acting as publishers' agents, through Google's publisher ad server, Google captured publishers' user data, encrypted it, and then through the Act 2 tie, refused to share that critical data with advertisers bidding through non-Google Ad Exchanges and Ad Networks. In so doing, Google effectively coerced publishers into selling their ad impressions through Google's Ad Exchange and Ad Network or trade through non-Google Ad Exchanges or Ad Networks and face a revenue decrease of at least 38%-60%.

218. Through Act 2, Google forced almost every large publisher to use Google's AdX. Even if those publishers also solicited bids from other Ad Exchanges and/or Ad Networks, those non-Google sourced bids would incur losses of between 38% to 60% of revenue and thus would be economically untenable. In other words, a publisher forced to choose between allowing Google's AdX to bid or losing the ability to solicit bids from advertisers that could identify the user viewing the advertisement would be economically forced to choose the former.

219. Moreover, as already noted, Google was able to implement its Act 2 tie through encryption only by usurping underlying data that belonged to publishers, not Google. Initially, at the time Google purchased DoubleClick, DoubleClick shared the User ID that it assigned to users on behalf of publishers. According to Google, DoubleClick did so because the User IDs and other data collected and/or generated on behalf of publishers during the process of arranging ad impression sales belonged to publishers and not DoubleClick.

220. During consideration of Google's acquisition of DoubleClick, Google in fact assured the Federal Trade Commission ("FTC") that it was committed to the then-operative approach of DoubleClick that the "data respecting users and competitive intermediaries collected by DoubleClick on behalf of its customers", *e.g.*, publishers, "currently belongs to the publishers, not DoubleClick". Google explicitly "committed to the sanctity of" the contracts DoubleClick had with publishers that clearly delineated publishers' ownership of that data. For example, in one contract between DoubleClick and Compaq Computer Corp. for the use of DoubleClick's DART Service (which included the software that became Google's Ad Server DFP) to sell ad impressions on Compaq's web properties, DoubleClick agreed that "Compaq ha[d] the sole and exclusive right to use all data derived by the use of the DART Service, for any purpose related to Compaq's business with Advertisers". That is precisely the sort of contract term DoubleClick

routinely entered with its publisher business partners and which Google committed to upholding after the DoubleClick acquisition.

221. Similarly, when testifying to the U.S. Congress concerning the DoubleClick acquisition, in discussing the “data that is collected in the process of advertising” which necessarily includes the User IDs discussed here, Google testified that it had “no ownership of the data that comes with that that is collected in the process of the advertising”; “That data is owned by the customers, publishers and advertisers, and DoubleClick and Google cannot do anything with it.”

222. Together, these statements reflect Google’s understanding that User IDs (and other data) that DoubleClick had generated and collected on behalf of publishers in the course of providing Ad Server services belonged to publishers. That understanding is logical given the importance to publishers that these User IDs be shared by the Ad Server on publishers’ behalf with all advertisers who may bid on the publishers’ ad impressions.

223. But once the DoubleClick deal closed and Google debuted its AdX Ad Exchange in 2009, Google terminated that prevailing course of dealing and commenced to encrypt the User IDs, deprecating the transactional data that both publishers and advertisers would receive as part of the transaction in the ordinary course, and precluding them from mutually identifying the same user on any Ad Exchange except AdX. This data depreciation further prevented publishers from sharing User IDs with rival Ad Exchanges to increase bid values on publishers’ impressions, as well as preventing publishers from transacting with advertisers on rival Ad Exchanges.

224. Google had no legitimate business purpose for its change in course from DoubleClick’s approach of sharing User IDs with all the parties to each transaction, and allowing

them to transact using those User IDs on any Ad Exchange or Ad Network the publisher designated to bid on an impression. Indeed, it is a core function of Ad Servers to provide the information available to all sources of demand because doing so optimizes publishers' revenues. By encrypting these User IDs and withholding the information from publishers, advertisers, and the Ad Exchanges with which publishers sought to deal, Google degraded its Ad Server to the detriment of its Ad Server customers. Instead, Google's encryption of User IDs was designed to functionally require publishers using its DFP Ad Server to sell impressions through AdX.

225. While Google professed that this change in course was to protect users' privacy, that explanation is both pretextual and irrelevant. The explanation is pretextual because Google uses the User IDs in operating its own Ad Exchange, reflecting that there is no privacy justification for not providing the User IDs to Google's competitors. But more importantly, users are not Google's customers when Google sells its Ad Server products; publishers are. Publishers are responsible for balancing their users' interest in privacy and maximizing revenues through ad sales. Thus, Google's degradation of its Ad Server purportedly for publishers' users' privacy makes Google's Ad Server less desirable to publishers—a clear signal that Google's encryption of User IDs as part of the Act 2 tie is merely designed to squelch competition in the Ad Exchange market.

2. Google Cements Its Ad Exchange/Ad Server Two-Way Tie (Act 1 and Act 2)

226. From at least 2009 to 2018, Google operated Act 1 and Act 2 to coerce publishers to use both Google's Ad Exchange and its Ad Server together. But in 2018, Google took several steps to cement the Act 1 and Act 2 ties, namely by requiring publishers to purchase both products in a bundle that Google branded "Google Ad Manager" or "GAM". Google essentially took its existing de facto ties and converted them into a contractual tie that Google described as

“jamming DFP and AdX together to ensure that [Google] takes the best of both worlds”.

Through GAM, Google required publishers to purchase both DFP and AdX together, a quintessential two-way tie that accomplished the same objectives as Act 1 and Act 2 together.

227. Google used the GAM bundle to reinforce Act 2 explicitly. In an internal October 2016 meeting, for example, Google discussed the “need to create a contract that if someone uses us as an Ad Server they need to let us compete [for inventory]” by allowing AdX to bid. Coercing publishers into the GAM bundle did just that.

228. For Act 1, Google used the debut of GAM to further tighten its tie. Specifically, Google set out to prevent publishers from accessing AdX at all without licensing Google’s Ad Server. Although prior to 2018, a few publishers were able to use third-party Ad Servers to access AdX without receiving live, competitive bids (instead receiving bids only based on AdX’s static historical average bids); as of 2018, Google ceased allowing those publishers to sell impressions via AdX at all. Google effectively closed a loophole that had allowed those few publishers licensing third-party Ad Servers to obtain static bids from AdX (at 20%-40% lower revenues) and ensured that such publishers could not use AdX at all without licensing Google’s Ad Server through GAM.

229. In addition to debuting GAM in 2018, Google also began to offer Open Bidding (previously known as Exchange Bidding), which is a service that allows publishers to pit multiple Ad Exchanges and/or Ad Networks against each other in a unified, live auction. Open Bidding was Google’s offering to replace Header Bidding (which also allowed multiple exchanges to submit live, competitive bids in a unified auction). For publishers needing AdX to submit live, competitive bids in a multi-exchange/network auction, Google required those publishers to use GAM. Publishers could not access live, competitive bids from AdX in Header

Bidding auctions. As a result, Google’s GAM further entrenched publishers’ reliance on Google’s tied Ad Exchange and Ad Server offerings as using GAM was the only way to obtain live, competitive bids in a unified auction from AdX.

230. In sum, as of 2018, GAM changed the way that Google accomplished the Act 1 and Act 2 ties, tightening the screws on both ties.

3. Act 3 and Act 4: Google’s Ad Network-Ad Server Ties

231. Through Act 3 and Act 4, beginning in 2009 and continuing to the present. Google tied its Ad Network, Google Display Network, to the purchase of one of Google’s Ad Servers and vice versa, reinforcing its monopoly power in each of these product markets, impairing competition in the Ad Network and Ad Server markets.

232. Act 3 and Act 4 principally pertain to tools offered and targeted to small- and medium-sized publishers that do not qualify for Ad Exchange participation. These small- and medium-sized publishers rely on Ad Networks to sell their ad impressions.

233. Most small- and medium-sized publishers use Google’s AdSense product. AdSense is a “closed” product that provides Ad Server services to publishers that use it and connects exclusively to advertisers purchasing ad impressions through the Google Display Network.

234. For Act 3 and Act 4, in which Google ties its Ad Network to its Ad Servers and its Ad Servers to its Ad Network, Google principally accomplishes these two-way ties by bundling its Ad Server function and the Ad Network into a single publisher-facing product known as “AdSense”.

235. Pursuant to the Act 3 tie, Google does not allow publishers to sell impressions through the Google Display Network unless the publishers also use a Google Ad Server.

Principally, publishers who do not qualify for participation in Ad Exchanges use AdSense, which exclusively sells publishers' ad impression demand through the Google Display Network. Thus, necessarily, publishers using AdSense must purchase both Google's Ad Server services and Google's Ad Network services together. In the alternative, Google permits those small- and medium-sized publishers that do not qualify for participation in Ad Exchanges to sell impressions through the Google Display Network if the publishers license Google's DFP Ad Server instead of AdSense. Publishers would license the DFP Ad Server to access Google's Ad Network if, for example, they also sold ads directly to advertisers and thus needed a more sophisticated Ad Server to determine when to place a direct-sold ad and when to sell the ad impression through an Ad Network. But even in that case, Google will not allow publishers using a third-party Ad Server to sell impressions through the Google Display Network. As a result, Google requires that publishers seeking to sell ad impressions through the Google Display Network must also use a Google Ad Server.

236. As discussed *supra*, the Google Display Network is a must-have source of advertising demand for all publishers. The Google Display Network is where the substantial and unique pool of advertisers buying through the Google Ads buying tool purchase ad impressions. For large publishers, forgoing access to these Google Ads publishers would result in lost revenues of approximately 40%. But for small- and medium-size publishers who lack access to Ad Exchanges, Google's dominant Ad Network is even more critical to their revenues. Google has monopoly power in the Ad Network market by virtue of its dominant Google Display Network sufficient to coerce publishers to use Google's Ad Servers to access that Ad Network.

237. For Act 4, Google's AdSense product exclusively sells publishers' ad impressions through Google's intermediaries (namely the Google Display Network). Publishers cannot use

AdSense to sell their ad inventory through other Ad Networks (such as the Facebook Audience Network). Thus, Google conditions the licensing of AdSense to publishers on publishers' use of the Google Display Network to sell their impressions.

238. In addition, Google requires small- and medium-sized publishers that use DFP to sell their impressions through the Google Display Network in much the same way that Google requires large publishers to use AdX: Google encrypts the User ID of publishers' users and only the Google Display Network (since the publishers do not qualify for AdX) can decrypt and utilize the User IDs. As a result, although in theory a publisher could set up DFP without soliciting a bid from the Google Display Network, doing so is not economically feasible because it would require the publisher to forgo 38% to 60% or more of its revenues by not using the Google Display Network, and instead using Ad Networks lacking such information about the user.

239. Despite bundling its Ad Server and Ad Network services into the Google AdSense product, Ad Servers and Ad Networks remain separate and distinct products in separate and distinct product markets as set forth in Section III.A.1, *supra*. The two services are separate and distinct in function. An Ad Server identifies the creation of impressions and solicits bids for the ad impression from Ad Exchanges and/or Ad Networks. The Ad Network matches publishers with ad impressions to sell with willing advertiser buyers. Moreover, publishers that license Google's DFP Ad Server can sell their impressions through the Google Display Network without using AdSense, evidencing that the services can be purchased separately, notwithstanding that Google bundles them in AdSense. In fact, in the case of DFP, a publisher could, in theory set up DFP without soliciting a bid from the Google Display Network, even though doing so is not

economically feasible because Google's tying conduct (Act 3 and Act 4) would cause a publisher not using the Google Display Network to realize at least 38%-60% less revenue.

4. Google's multiple ties – Act 1 to Act 4 – have been effective in squelching competition

240. Google's control of the Relevant Markets increased significantly as a result of the foregoing four ties (Acts 1-4). Having compelled the use of both Google's publisher Ad Server and Ad Exchange by large publishers, and both Google's publisher Ad Server and Ad Network by small- and medium-size publishers, when either group of publishers might want only one or the other, Google has maintained, strengthened, and expanded its dominance in *all three* Relevant Markets.

241. Forcing Google's Ad Exchange customers to use Google's publisher Ad Server, and *vice versa* (Act 1 and Act 2), raises additional barriers to entry in the Relevant Markets that already posed a high bar given Google's massive stable of advertisers. Google's conduct has both the goal and effect of gaining control over the entire range of Ad Tech Stack products, squelching innovation, and locking publishers and advertisers into a Google-controlled system—all of which together allows Google to extract artificially inflated take rates from publishers and reduces publishers' net advertising revenues from Google.

242. Google's share of the Ad Server market skyrocketed as a result of these ties (Acts 1-4). Within a few years from Google's 2007 acquisition of DoubleClick, 78% of large publishers in the United States used Google's DFP Ad Server. And by 2019, following the GAM debut and Google ceasing to allow AdX to return even static bids to publishers using third-party Ad Servers, Google's share of large publishers using a Google Ad Server had grown to approximately 90%, with no significant competitors remaining in the Ad Server market.

243. Indeed, because it is difficult-to-impossible for a publisher to use multiple Ad Servers simultaneously, publishers adopting Google’s Ad Server were simultaneously dropping competitors’ Ad Servers. And as a result, Google’s most important Ad Server competitors each left the market, as discussed in Section III.B.1, *supra* and Section V, *infra*.

244. Google’s two-way tying of separate products through Act 1 to Act 4 (tying Google’s Ad Server for large publishers and Ad Exchange, and Google’s Ad Network and Ad Servers for small- and medium-size publishers) created a feedback loop based on network effects: as additional publishers use Google’s Ad Servers and Ad Exchange/Ad Network due to the ties, advertisers must increasingly participate in Google’s Ad Exchange/Ad Network auctions, which in turn enhances the value of Google’s Ad Exchange and Ad Networks services to publishers and entices more publishers to purchase Google’s services.

245. Microsoft used similar anticompetitive strategies in the 1990s. For example, Microsoft correctly recognized that the web browser could displace the operating system as the most important computer interface. The web browser is an application that sits on top of a “stack” or layers of software, with the operating system at its foundation. Microsoft used its Windows operating system monopoly to force consumers to install, load, and use Internet Explorer instead of a rival web browser. By so doing, Microsoft was both expanding its monopoly “upward” in the stack—from the operating system into web browsers—and maintaining its operating system monopoly by making the web browser dependent on Windows. Similarly, Google seeks to maintain and expand control throughout the entire advertising technology stack (including the publisher Ad Server and Ad Exchange/Ad Network markets) by forcing its publisher Ad Server and Ad Exchange or Ad Network products together. Google, like

Microsoft before it, is thereby squelching innovation and locking its users into a Google-controlled system from top to bottom.

246. At its core, Google uses its control over publishers, gained through the ties and other conduct alleged herein, to reinforce its control over advertisers purchasing impressions through its Ad Exchange and Ad Network. By using its Ad Servers to exclude or impair competition from non-Google sources of advertising demand, Google impairs competing Ad Exchanges and Ad Networks in their ability to transact with Google's publishers' ad inventory. This conduct, in turn, impairs those actual or potential competing Ad Exchanges and Ad Networks from acquiring, maintaining, or growing their pools of advertising demand. Further, as a result of the Scheme alleged herein, those potential competing Ad Exchanges and Ad Networks are unable to provide publishers with advertising demand comparable to Google, which further locks those publishers into Google's Ad Servers, Ad Exchange, and Ad Networks due to Google's Scheme, including its *Microsoft*-like tying anticompetitive strategy.

247. As a result of the conduct alleged herein, Google is able to overcharge publisher class members using its Ad Server, Ad Exchange, and Ad Network products because such publishers are locked into Google's Ad Tech Stack offerings through the multiple ties that are integral to Google's Scheme.

B. Google's Unlawful Acts Deemed to Have Been Sufficiently Alleged

248. Google has monopoly power in each of the publisher Ad Server, Ad Exchange, and Ad Network markets. As described below, Google has engaged in a Scheme using a series of actions to obtain, maintain and enhance that monopoly power in each of those markets. Google's Scheme has entailed multiple types of conduct, which have evolved over time to strengthen Google's stranglehold throughout the Ad Tech Stack and to vanquish competitive threats as they

have arisen. While these disparate acts were anticompetitive restraints when viewed individually, the restraints comprising this Scheme interacted in a synergistic manner, reinforcing and augmenting their respective impacts in the Relevant Markets beyond the sum of any discrete individual impacts.

249. Google has used its Scheme to acquire, maintain and enhance market dominance in the publisher Ad Server, Ad Exchange, and Ad Network markets, as well as in the Ad Buying Tools markets for both large and small advertisers.

250. On September 15, 2022, this Court, rejected substantial portions of Google's Motion to Dismiss the States' Complaint, which alleges much, but not all, of the conduct elements of the Scheme alleged here. This Court held that the States sufficiently alleged nine conduct elements (Act 5 to Act 13) catalogued in Table 2 (as well as the first tie in Table 1, Act 1). The details of these Acts from Table 2, numbered as they are in Table 2, are elaborated in detail in this Section. Act 1 (a tie), which was also deemed sufficiently alleged, was discussed *supra*.

251. Each of these elements of the Scheme was not competition on the merits; nor were any the product of superior skill, foresight, or historical accident. Their sole purpose and effect was to destroy competition.

1. Act 5: Google used its monopoly power in the Ad Server market to manipulate the waterfall to favor its Ad Exchange through "Dynamic Allocation".

252. In the publisher Ad Server market, Google has a market share of approximately 90%. Google's control over this stage of the Ad Tech Stack is particularly important because it is the publisher Ad Server that decides which advertisement wins the right to be displayed on a publisher's webpage. From at least 2010 to the present, Google has used this favored position in

the Ad Server market to enhance monopoly power in its own Ad Exchange, and to disadvantage, impair, and exclude competing Ad Exchanges.

253. Prior to 2009, Google's display ad auctions allowed publishers to prioritize their sources of demand for advertising (from deals sold directly by the publishers and from auctions through one or more Ad Exchanges and/or Ad Networks) within Google's publisher Ad Server using a "waterfall" sequence that awarded the winning bid to the first Ad Exchange or Ad Network in the sequence that returned a bid above a "reserve" or "floor price" set by the publisher.

254. In that waterfall process, publishers could prioritize their chosen Ad Exchanges and/or Ad Networks in the waterfall sequence based on how the publishers valued those Ad Exchanges and/or Ad Networks, with direct-sold deals (if any) typically having priority over auctioned ads. Then, when ad impressions became available (*i.e.*, when a user loaded the publisher's page generating ad impressions in the ad slots on the page) and there was no direct deal ad eligible for placement, the Google publisher Ad Server solicited a bid from the Ad Exchange or Ad Network in order of the publisher's assigned rankings, with the highest-ranked Ad Exchange or Ad Network having the opportunity to conduct an auction and present a winning bid for the ad impression above a publisher-established reserve price.

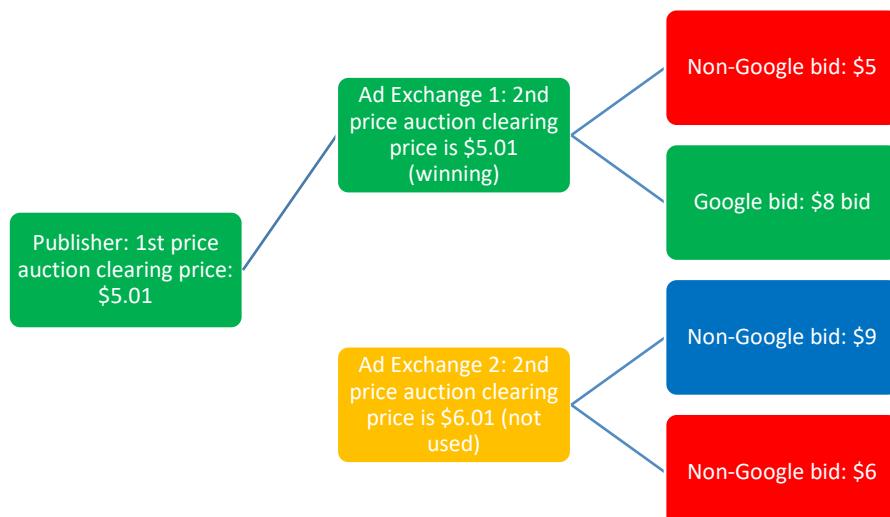
255. If that first auction sold the ad impression above the reserve, the auctioning process stopped there. If the reserve price was not met, Google's publisher Ad Server would offer the next Ad Exchange or Ad Network in the waterfall the opportunity to bid at a lower reserve price, and the process repeated for additional ad sources, lowering the reserve price each time.

256. Although this process helped publishers reduce the risk that ad inventory would not sell, it precluded Ad Exchanges and Ad Networks, notably including Google's rivals, from bidding against each other in real time.

257. The waterfall system failed to maximize revenues to publishers because it did not allow publishers to rank Ad Exchanges and Ad Networks in the waterfall in accordance with the Ad Exchanges' and Ad Networks' actual bids (instead relying only on static estimated bids based on historical auction results), nor did it allow all interested advertisers to bid against each other in real time through multiple Ad Exchanges and Ad Networks.

258. These limitations reduced publisher advertising dollar yields. For example, if the publisher Ad Server's estimated bids for its second (or third, or fourth, or fifth, etc.) Ad Exchange or Ad Network were inaccurate and those advertisers would have valued the ad slots more (*i.e.*, bid higher amounts) than the historical bids, publishers would lose out on the actual value placed on their inventory, and thus would receive lower revenues as a result.

259. Moreover, the sequential bid aspect of the waterfall system prevented publishers from securing higher bids that had a lower rank in the waterfall. As set forth in Figure 3, the waterfall system had two ad sources (Ad Exchanges) both running second-price auctions, the



publisher Ad Server would collect the bid from the first Ad Exchange using a reserve price (say \$5). The auction clearing price may then be \$5.01 and, because the reserve price was satisfied, the first auction would place the ad. However, if the second Ad Exchange's auction clearing price would have been \$6.01, the publisher effectively lost \$1 for the ad placement due to the waterfall system because that second Ad Exchange never got the opportunity to bid.

Figure 3: Example Lost Opportunity Due to the Waterfall

260. The waterfall system was inefficient because it prevented rival Ad Exchanges from competing against each other for each ad impression and deprived publishers of the opportunity to reach the entire universe of Ad Exchanges to sell each impression at the highest price. If an Ad Exchange with an early place in the waterfall sequence produced a bid above the publisher's minimum acceptable price, that early bid would win the impression—even if an Ad Exchange later in the waterfall sequence had elicited a substantially higher bid.

261. An additional issue created by the waterfall system was slow-loading advertisements. The process of conducting successive auctions sometimes took long enough that users often left a page before the advertisement loaded, creating issues with tracking ad performance and potentially causing the publisher's content to load more slowly and diminishing user experience.

262. Beginning in or around 2010 and running through 2019, Google's publisher Ad Server began using a system called "Dynamic Allocation" as a supplement to the waterfall system to artificially advantage Google's Ad Exchange in that system.

263. Google knew that the surest way for publishers to maximize revenue would have been to allow real time bidding by multiple Ad Exchanges at the same time.

264. Through Dynamic Allocation, as part of its Scheme, Google's publisher Ad Server instead gave Google's own Ad Exchange an exclusive first-in-line advantage and a last look over all other Ad Exchanges and Ad Networks. Dynamic Allocation allowed Google's AdX to run an auction using the highest estimated bid from all other Ad Exchanges and Ad Networks in the waterfall as the auction floor price. The estimated price of the other Ad Exchanges and Ad Networks was based on the average historical bids placed on rival sources of advertiser demand, which Google obtained through its publisher Ad Server. If Google's AdX auction beat that highest estimated price, even by a penny, then Google placed the ad from AdX as the winner, with no other Ad Exchange or Ad Network even given the opportunity to bid. Rival Ad Exchanges and Ad Networks were only permitted to run auctions among their advertisers if Google's AdX failed to beat the floor price.

265. The Dynamic Allocation system thus gave Google's AdX a privileged position as the default first ad source in the waterfall system. This first-in-line privilege, granted by Google's publisher Ad Server, effectively drove advertisers to use Google's AdX at the expense of rival Ad Exchanges, because advertisers knew that if they submitted the exact same bid on AdX as compared with a competing Ad Exchange, the bid on AdX was more likely to win due to AdX's priority in the waterfall. Thus, Google used its publisher Ad Server monopoly power to expand its Ad Exchange dominance. In turn, Google's Ad Exchange dominance reinforced its publisher Ad Server dominance through network effects and feedback loop dynamics, as discussed, *e.g.*, in Section II.E, *supra*.

266. Critically, a rival Ad Exchange might have returned a higher bid than the winning bid on AdX, but those rival Ad Exchanges never had the opportunity to receive bids. With Dynamic Allocation, Google's AdX got to run an auction that only had to beat rival Ad

Exchanges' historical average bid, and not the best bid the rival Ad Exchanges had. As a result, AdX could win high-value inventory by incrementally beating the historical average bid (information AdX had only because of DFP's position as the publisher Ad Server. In essence, Google used information accessible to it through its Ad Server to privilege its Ad Exchange in such a way that foreclosed other Ad Exchanges' and Ad Networks' access to inventory for which such Ad Exchanges and Ad Networks may have had the highest bid. For the Ad Exchange market, Dynamic Allocation therefore had the effect of controlling prices and excluding competition in the Ad Exchange market.

267. Moreover, Dynamic Allocation did nothing to address the inefficiencies of the waterfall system; rather, it capitalized on and reinforced those inefficiencies by imposing Google as the default first ad source, irrespective of whether AdX had the highest historical average bid. In the absence of Dynamic Allocation, some of these ad impressions would have transacted on rival Ad Exchanges with terms more favorable to publishers. Thus, Dynamic Allocation depressed prices by inhibiting competition.

268. In short, as part of the Scheme, Google used its monopoly power in the Ad Server market to implement Dynamic Allocation to help it acquire and maintain Monopoly power in the Ad Exchange market.

2. Act 6: Google Refines its Ad Server's Favoritism of its Ad Exchange Through “Enhanced Dynamic Allocation”.

269. In 2014 Google's Scheme enhanced the anticompetitive nature of Dynamic Allocation, further impairing competition in the Ad Exchange market, by implementing “Enhanced Dynamic Allocation”, which channeled a new pool of publishers' most high-value impressions exclusively to AdX, but not to other Ad Exchanges. Enhanced Dynamic Allocation took Dynamic Allocation and expanded it beyond programmatic advertisements to allow

Google's AdX to run an auction before placing an ad associated with a direct deal with an advertiser. Enhanced Dynamic Allocation essentially forced publishers to let AdX compete with their direct deals, or those ad placements they had negotiated directly with advertisers. With Enhanced Dynamic Allocation, Google's AdX used the highest value direct deal the publisher had arranged as the reserve price for the AdX auction.

270. Enhanced Dynamic Allocation conferred an even greater advantage on Google's own Ad Exchange than the earlier version of Dynamic Allocation by allowing Google to prioritize Google's Ad Exchange even ahead of publishers' direct-sold deals in the waterfall system.

271. Under Enhanced Dynamic Allocation, Google's DFP Ad Server allowed AdX to transact an impression if an advertiser submitted a bid that was higher than both (1) a floor price unilaterally set by Google called the EDA Reserve Price, and (2) the average historical bids of rival exchanges.

272. Google automatically enrolled its publisher clients who used Google's DFP Ad Server in Enhanced Dynamic Allocation. When Google launched Exchange Bidding, Google required publishers who wished to participate in Exchange Bidding to have a DFP account mapped to an AdX account that was also set as the default for Dynamic Allocation.

273. Google claimed that Enhanced Dynamic Allocation would respect when a publisher reserved specific inventory to a particular advertiser by calculating an opportunity cost based on its own "Satisfaction Index", and only allowing AdX to win the auction where the reserved ad campaign was already on schedule and where it was better for the publisher to sell to AdX. In practice, Google knew that Enhanced Dynamic Allocation let AdX "cherry-pick higher revenue impressions" from DFP without any competition from other Ad Exchanges. AdX was

the only Ad Exchange with this access to inventory, because of Google's ownership of DFP, and AdX buyers were the only ones who could bid in real time for this inventory. Google later admitted to regulators that, after the launch of Enhanced Dynamic Allocation, "third party exchanges and ad networks were not as competitive on individual ad impressions they valued highly".

274. Google used its monopoly power in the Ad Server market to implement Enhanced Dynamic Allocation, which allowed Google to channel publishers' most valuable impressions exclusively to AdX. Google excluded rival Ad Exchanges excluded from access to this high-value inventory. And Enhanced Dynamic Allocation significantly impaired publishers' direct sales channels, driving more advertisers to Google's programmatic channels where Google could extract more profits through its higher take rate on automated ad placement.

275. Today, Google continues to coerce publishers to use Enhanced Dynamic Allocation. If a publisher turns off Enhanced Dynamic Allocation, then AdX will not return live, competitive bids for the publishers' impressions. And as noted herein, without AdX returning live, competitive bids, a publisher would forgo 20%-40% of its ad revenues, which is not an economically feasible option.

276. Enhanced Dynamic Allocation is anticompetitive conduct, adding to and maintaining Google's monopoly power in the Ad Exchange market.

3. Act 7: Impairing Competition in the Ad Exchange Market through Variations of Project Bernanke.

277. As part of its Scheme, Google abused its monopoly power in its Ad Exchange through exclusionary conduct pursued through Project Bernanke, which further impaired competition in the Ad Exchange market. Bernanke went through at least three iterations over the course of 2013 to the present, but at bottom, had the same objective and result: underpaying

publishers after a transaction cleared on its own Ad Exchange, AdX, with Google secretly retaining a portion of the winning bid. Google then added this secretly retained payment into a pool that Google used to supplement the bids of Google's advertiser clients at the expense of rival, non-Google advertiser bidders. In this way, Google augmented winning bids of its advertisers using its Ad Buying Tools (specifically Google Ads) on AdX to the exclusion of advertisers using non-Google buying tools.

278. Here, it is important to understand the mechanics of Ad Exchange auction. Until no later than 2019, the typical Ad Exchange auctions used a "second-price" auctioning mechanism. In a second- price auction, the winner only pays \$0.01 more than the second highest bid. If Advertiser A bids \$2.00 for an impression and Advertiser B bids \$1.75, the auction clearing winning bid will be \$1.76. Second-price auctions incentivize advertisers to bid in accordance with the value they place on the impression because they know that they will only have to pay the amount needed to beat the next highest bidder irrespective of their bid amount, eliminating what is known as buyers' "remorse" and/or the "winner's curse". First-price auctions, on the other hand, create incentives for advertisers not to bid as high as they value the impression (to avoid the winner's curse) and instead focus on optimizing their bids to bid as low as possible but still win the auction.

279. In a second-price auction, publishers are also permitted to set a price floor, reflecting the minimum amount that they will accept for a transaction. If only the highest bid exceeds the price floor, the price floor acts as the second-highest bid, and the winner will pay the amount of the price floor. At the time Google implemented the various Bernanke processes, a publisher using DFP could set different price floors for different Ad Exchanges.

280. From 2010 to 2019, Google publicly stated that AdX was organized as a second-price auction. But Google's secret Project Bernanke program was structured as a third-price auction rather than a second-price auction. Essentially, Bernanke dropped the highest AdX bid if Google's advertisers bidding through Google Ads had both the highest and second highest bid and treated that second highest bid as the highest bid for the purpose of calculating the amount due to the publisher. Because Bernanke applied to a second-price auction, dropping the highest bid meant that Google was paying publishers the higher of the third-highest bid or the floor price. Unaware that this was happening, publishers suffered revenue declines of as much as 40%.

281. At the same time, Bernanke caused Google Ads, Google's Ad Buying Tool for small advertisers, to charge the highest-bidding advertiser as if it had won a second-price auction. Thus, whichever Google Ads advertiser had the highest bid still paid the second-highest bid price, as called for in a second-price auction. However, because the publisher only received a payout from Google equal to the third-highest bid (or floor price), Google kept the difference between that second highest bid and the higher of the third highest bid or the floor price, in a pool of funds. Google then used that funds pool to increase the bids of client advertisers using Google Ads, to help its advertisers bidding on AdX win impressions that might have gone to advertisers that used non-Google Ad Buying Tools and/or non-Google Ad Exchanges. The extra money pooled through Bernanke thus increased the number of ad impressions transacted in AdX, causing a 20% increase in the win rate of Google Ad Buying Tools. Necessarily, Google's gains in the number of impressions won for its Google Ads advertisers through Bernanke were at the expense of rival Ad Buying Tools, foreclosing such rivals' access to publishers using Google's Ad Server and Ad Exchange to sell their ad impressions. In doing so, Google reinforced the network effect feedback loop described in Section II.E, *supra*, driving more advertisers to

Google's Ad Buying Tools and increasing publishers' reliance on Google's Ad Server and Ad Exchange.

282. Later, in or about 2015, Google amended Project Bernanke's processes in a new iteration coined "Bell". With Bell, Google pre-determined whether a publisher provided AdX with an opportunity to bid on inventory prior to other Ad Exchanges through Dynamic Allocation or Enhanced Dynamic Allocation. If the publisher did not turn on Dynamic Allocation or Enhanced Dynamic Allocation, the Bell version of project Bernanke structured the auction from a second- to third-price auction, thereby punishing the publisher for not favoring AdX and decreasing the publisher's revenues. Bell then used the differential to inflate the bids returned to publishers who gave preferential access to AdX. Bell thus penalized publishers who did not grant AdX preferential access by paying them the third-place bid price rather than the second-place bid price, while using the difference to increase the bids made to publishers who did allow preferential access. In the process, Bell artificially and anticompetitively disadvantaged rival Ad Exchanges.

283. Google use another version of Bernanke, called "Global Bernanke", which used pool money to inflate the bids of Google Ads advertisers who would likely have otherwise lost for being too close to a publisher's price floor on AdX. Global Bernanke was different from other versions of Bernanke because it did not just apply to publisher-set price floors, but to floors that Google itself had set.

284. The three "Bernankes"—the original Project Bernanke, Bell, and Global Bernanke—had anticompetitive effects in the market for Ad Buying Tools for small advertisers. Through these programs, Google pooled funds to give an unfair advantage to Google Ads advertisers, which injured competition among Ad Buying Tools for small advertisers. Rival Ad

Buying Tools had no effective way of competing with Google Ads (and did not know that it was occurring) because of how the Bernankes manipulated bid prices with no purpose but to exclude those rival tools.

285. The Bernankes also impaired competition in the Ad Exchange and Ad Network markets. By enhancing Google Ads' ability to win AdX auctions, Google coerced additional advertisers into using Google Ads as their Ad Buying Tool. Enhancing the power of Google Ads further reinforces the ties alleged herein (Act 1 to Act 4) because Google Ads represents a significant and unique pool of advertising demand to which Google withholds access from publishers unless the publishers use Google's Ad Servers. Thus, conduct like the Bernankes that coerces advertisers to use Google Ads, in turn, enhances Google's ties of its Ad Network (the Google Display Network in which Google Ads buys impressions) and its Ad Exchange (in which Google Ads buys impressions, *e.g.*, through the Google Display Network), by increasing Google's market power in those related product markets and thus the coerciveness of Google's ties.

4. Act 8: Google's Abuse of Monopoly Power in the Ad Server Market to Impair Competition in the Ad Exchange Market Through "Dynamic Revenue Sharing".

286. In 2014, using its monopoly power in the Ad Server market, Google's launched another program it called Dynamic Revenue Share ("DRS") that benefited Google at the expense of publishers and advertisers and unlawfully foreclosed competition in the Ad Exchange market.

287. As originally constructed, DRS dynamically adjusted Google's Ad Exchange take rate on an impression-by-impression basis to maximize the proportion of impressions Google's Ad Exchange would win.

288. In a competitive process, each Ad Exchange would be judged based on its "net bid", *i.e.*, the winning bid would be based on the amount of the highest bidding advertiser's bid

(or second-highest bidding advertiser's bid in a second-price auction) bid less the Ad Exchange take rate.

289. Through DRS, however, Google would selectively adjust its Ad Exchange's net bid by increasing or decreasing Google's take rate. Specifically, if reducing Google's take rate would increase AdX's net bid enough to win the ad impression, DRS did just that; and when no other Ad Exchange (or Ad Network) had a net bid sufficient to beat Google's AdX net bid, Google would raise its take rate to recoup the amounts forgone when Google reduced its take rate.

290. DRS thus impairs competition in the Ad Exchange and Ad Network markets in at least three ways. First, DRS operates in conjunction with Dynamic Allocation and Enhanced Dynamic Allocation, and as such, AdX runs an auction that uses the highest historical average bid of other Ad Exchanges and Ad Networks in the waterfall as the floor price. So, suppose that floor is \$1.00. Suppose further that Google's AdX bid was \$1.20. Google's \$1.20 bidder would have a net bid of \$0.96 (\$1.20 minus Google's 20% take rate) and thus would not clear the \$1.00 floor price. Absent DRS, Google would call the first Ad Exchange or Ad Network in the waterfall. But with DRS, Google could lower its take rate by \$0.04 in advance so that the net bid using Dynamic Allocation was \$1.00 and sufficient to clear the floor price. As a result, DRS prevented other Ad Exchanges and Ad Networks from even having an opportunity to bid, and thus impaired competition in those two markets.

291. Google, however, did not just accept a loss of that \$0.04 through DRS. Instead, the next time Google's advertiser's net bid exceeded that floor price by \$0.04, Google recouped the \$0.04 by increasing Google's take rate. And because of the volume of ad impressions Google controls, such recoupment could be achieved in mere seconds.

292. Second, DRS could manipulate Google's Ad Exchange take rate *after* an auction-clearing bid from another Ad Exchange in the waterfall has taken place, in order to win ad impressions it would have otherwise lost with a fair process. For example, with Google's last look, suppose that another Ad Exchange had a net bid of \$1.00 that satisfied the publisher's floor for an impression. Google's last look then provides Google the opportunity to run an AdX auction with \$1.00 as the floor. If, again, Google's AdX auction returns a \$1.20 gross bid, the net bid with Google's 20% take rate would be \$0.96, which is insufficient to win the impression. With DRS, however, Google could lower Google's AdX take rate to produce a net bid of \$1.01. The manipulated \$1.01 now prevails and the AdX advertiser will win the impression even though AdX should have lost to the rival Ad Exchange. Again, Google does not just lose those additional \$0.05. Instead, the next time the AdX net bid exceeds the other Ad Exchanges and/or Ad Networks' auction clearing net bid by \$0.05, DRS increases Google's take rate to recoup the \$0.05 it forwent previously.

293. Later, when multiple exchanges could bid simultaneously with live, competitive bids, DRS continued at least through 2019 to manipulate Google's take rates in real time to exceed other rival Ad Exchanges' and Ad Networks' net bids and recoup any amounts Google forwent in other auctions where rival Ad Exchanges' and Ad Networks' net bids were insufficient to beat Google's net bid with Google's ordinary take rate.

294. Through these DRS take rate manipulations, Google excluded rival Ad Exchanges and Ad Networks using information Google gleaned from its market dominant Ad Server. Importantly, only Google had access to rivals' net bids as a result of its market dominant Ad Server, which gave Google access to publishers' ad inventory and also set the terms on which other Ad Exchanges and Ad Networks could bid on that inventory. Google used this net bid

information from other Ad Exchanges and Ad Networks to manipulate Google's take rate such that Google never lost money even over the near term, but non-Google Ad Exchanges and Ad Networks were foreclosed from competing for ad impressions at all.

295. In sum, Google used its monopoly power in its publisher Ad Server to alter its take rate and win impressions that AdX would have otherwise lost to rival exchanges. By adjusting its fees only after receiving bids and reviewing the bids placed on rival Ad Exchanges, Google impaired competition in the Ad Exchange and Ad Network markets, including competition over take rates, thereby inflating Google's market power and causing Google to artificially inflate its take rate. Thus, this conduct harmed publishers because it enabled Google, though the alleged Scheme, to charge supracompetitive take rates on its Ad Exchange and Ad Network products.

5. Act 9: Extension of Google's Scheme to Thwart Header Bidding by Capping Line Items in Google's Ad Server.

296. Google's Scheme, at least as to larger publishers, generally consists of the use of its monopoly power in the Ad Server and Ad Exchange markets to maintain, reinforce and maintain its monopoly power in each market by, among other things, designing Google's Ad Server to maximize the proportion of impressions that Google's Ad Exchange could win over rival Ad Exchanges. Google refined and extended its Scheme, using Act 9 through 12 and Act 14 described below, to maintain and enhance its monopoly power in the markets for Ad Exchanges, Ad Networks, and Ad Buying Tools after it was confronted what it described as an "existential threat" from an innovation, Header Bidding, which was developed and implemented outside Google's Ad Tech Stack ecosystem. To appreciate the nature of Google's anticompetitive responses to Header Bidding, beginning with Act 9, the limitation of "line items" implemented

by Google's market dominant Ad Server, it is essential first to understand what Header Bidding is, why it was so innovative, and why it posed such a threat to Google.

297. Google's waterfall system, as implemented through its Dynamic Allocation and Enhanced Dynamic Allocation processes (Act 5 and Act 6) was both inefficient for publishers and erected artificial barriers to competition from rival Ad Exchanges and Ad Networks. In 2014, a software company Criteo introduced a disruptive software code known as "Header Bidding" as a solution to these problems, which was later adopted by other vendors such as Amazon. When implemented in a publisher's website, Header Bidding gives every ad buyer an equal chance to bid on the same inventory at the same time, leading to direct competition between bidders, thereby leveling the playing field for rival Ad Exchanges, and ultimately generating more ad revenue for publishers.

298. Header Bidding sends ad requests to participating Ad Exchanges and Ad Networks, which then submit their bids simultaneously, avoiding Google's waterfall system altogether. With the waterfall system, by contrast, once the publisher Ad Server identifies an Ad Exchange or Ad Network in the waterfall sequence that meets the reserve price, the process is over.

299. By 2016, approximately 70% of major publishers in the United States were using Header Bidding to route their inventory to multiple Ad Exchanges. Google responded to Header Bidding not by competing with it on the merits, but instead by adapting its Scheme to undermine it using monopoly power in multiple markets. Google first responded by copying it, deploying Google's own tool allowing real time bidding among competing Ad Exchanges and Ad Networks, and eventually changing Google's second price auction to a first price auction. Google initially named its new multi-exchange bidding tool Exchange Bidding, later renaming it

to Open Bidding to reflect the participation of Ad Networks like Facebook’s Audience Network. At one point, as internal Google documents indicate, Google employees considered having Open Bidding compete with Header Bidding on price by lowering Google’s take rates. But Google rejected that idea—competition on the merits was not Google’s way.

300. Instead, Google refined and extended the Scheme it had already used to acquire and maintain monopoly power in all of the relevant publisher and advertiser tools markets—dominance which now faced an “existential threat” from Header Bidding—to “kill” Header Bidding through multiple types of mutually reinforcing anticompetitive conduct. Google did this in various ways by impairing and excluding rival Ad Exchanges by using its publisher Ad Server to manipulate auction processes to preference Google’s Ad Exchange, impairing competition in the Ad Exchange market. While these disparate acts were anticompetitive restraints when viewed individually, the restraints comprising this Scheme interacted in a synergistic manner, reinforcing and augmenting their respective impacts in the Ad Exchange market beyond the sum of any discrete individual impacts.

301. Until Google launched its multi-part offensive to divert advertising traffic from Header Bidding to Exchange Bidding, using its monopoly power throughout the Ad Tech Stack, Header Bidding had enhanced competition between Ad Exchanges and Ad Networks and led to substantial increases in winning prices for ad impressions, by as much as 30-40% and in some cases up to 70%. In addition, with Header Bidding in place, take rates from participating Ad Exchanges and Ad Networks fell significantly lower than the take rate Google charged.

302. Header Bidding dramatically increased revenues for publishers using Google’s Ad Server because: (1) real time bids by Ad Exchanges tend to exceed the historical averages that Google was using through its first look advantage to disadvantage rival Ad Exchanges; (2)

by 2019 Header Bidding was utilizing first-price auctions in which the publisher receives the amount of the highest bid, as compared with Google’s then-prevailing second-price auction in AdX where the highest bidder wins the auction but pays only the amount of the second-highest bid; and (3) the combined take rate on Header Bidding for publisher and advertisers was lower than the take rate Google imposed on publishers for all its products through AdX.⁷

303. Through Act 9, Google used its monopoly power in Ad Server to artificially cap publisher’ use of “line items” in a way that artificially favored its own Ad Exchange, AdX, as one of several ways of thwarting Header Bidding, thereby to maintain and enhance its monopoly power in the Ad Server and Ad Exchange markets.

304. Line items are a feature in Google’s Ad Server publishers must use to receive bids from Ad Exchanges and Ad Networks when using Header Bidding. Google’s DFP Ad Server (continuing through when Google bundled DFP with AdX in Ad Manager) requires publishers to match a bid received from a Header Bidding exchange (*e.g.*, \$4.29) with a price corresponding to a pre-existing Ad Server line item (*e.g.*, a line item with a price of \$4.29). If a publisher receives a Header Bidding bid of \$4.29, but only has a pre-existing line item with a price of \$4.20 in Google’s Ad Server, then the publisher’s Google Ad Server automatically rounds down the Header Bidding bid to the line item with the next closest price, *e.g.*, to the line item with the

⁷ In other words, the take rates paid by publishers and advertisers using Header Bidding (which necessarily did not involve Google because Google refused to participate), were significantly lower than the take rates Google imposed on publishers and advertisers using Google’s Ad Tech Stack. For example, the combined take rate of the Header Bidding software provider (which was generally close to zero) plus the take rate of non-Google Ad Exchanges and Ad Networks participating in Header Bidding auctions (which was far less than Google’s take rate for its Ad Exchange and Ad Network) was less than Google’s charge for publishers to sell ad impressions through AdX (with its 20% take rate charged directly to publishers) and less than Google’s charge for Exchange/Open Bidding (which charged publishers a take rate of at least 5% when AdX did not win the Exchange/Open Bidding auction).

price of \$4.20. Thus, the publisher must create a large number of line items (*e.g.*, line items with corresponding prices of \$4.20, \$4.21, \$4.22, \$4.23, \$4.24, \$4.25, \$4.26, \$4.27, \$4.28, and \$4.29) to capture a live, competitive bid coming in from Header Bidding.

305. Google purposefully limits publishers' implementation of line items to foreclose competition from Header Bidding. When publishers requested that Google increase the number of permissible line items implemented so that they could properly utilize Header Bidding, Google rejected their requests, or would provide only temporary and limited increases. Google's internal documents make it clear that Google's intent was to keep artificial line items caps in place as a "tool we have to fight" Header Bidding. This practice was not competition on the merits. It involved Google making its own product worse for its customers as a means to defeat competition.

306. Google also limited the number of line items publishers could use, even though DFP allows for a greater number to be implemented, to pressure publishers to switch to Exchange/Open Bidding. As one employee explained to others, "We need to push these pubs to using Jedi – if imposing more limits pushes them more to Jedi – then we should keep those limits in place."

307. In a competitive market, an Ad Server would *help* publishers—Google's Ad Server customers—use Header Bidding to increase publishers' yield, *i.e.*, to optimize revenue. In fact, this is precisely what the OpenX Ad Server did when it incorporated Header Bidding through a single line item, removing altogether the need for the multiple line-item set-up. After all, if competitive Ad Servers "built a better mousetrap" and brought higher yield and better service, publishers would switch to that rival product. But because Google had virtually no competition in the Ad Server market and used the Scheme (including the ties alleged herein) to

maintain its Ad Server dominance, Google chose not to compete on the merits, but instead to use its market power to interfere with rivals' ability to compete. Publishers, due to the Scheme, are locked-in to using Google's market dominant Ad Server and cannot switch. Thus, OpenX's Ad Server had limited opportunity to gain share against Google's monopoly share and exited the market in 2019, due to the Scheme.

308. Instead of increasing line items to enhance publishers' yield, DFP (and its Ad Manager successor) has undermined its own customers' revenue yield. Fewer line items cause Google to round down publishers' bids from Header Bidding more often. As a result, Google's Exchange/Open Bidding tool is able to beat publishers' Header Bidding bids without Google's tool actually having a higher bid. Publishers also receive less revenue when a Header Bidding exchange wins but has the value rounded down by Google's Ad Server.

309. Google's use of its monopoly power in the Ad Server market to limit line item spacing, by helping to thwart Header Bidding, also maintained its monopoly power in the Ad Exchange market.

6. Act 10: Google's Use of Monopoly Power in the Ad Server Market to Redact Auction Data.

310. Through Act 10, as part of its Scheme, beginning in 2018 and continuing through the present, Google used the monopoly power in its publisher Ad Server to redact various data fields from publishers' consolidated auction records. Google's redactions artificially disadvantaged rival Ad Exchanges and Ad Networks and impaired competition in both those markets.

311. Previously, Google's DFP Ad Server provided auction records containing the data fields called Key Part and TimeUse2. Publishers used these data fields to compare the relative performance of Ad Exchanges in Header Bidding with the performance of Ad Exchanges going

through Exchange Bidding. Knowing that Header Bidding outperforms Google's AdX, for example, encourages publishers to use Header Bidding.

312. Google's redactions were designed to thwart publishers' ability to evaluate the performance of Ad Exchanges in Header Bidding, and thus reduce publishers' use of Header Bidding. As a result, Google's redactions foreclose competition from rival Ad Exchanges that worked through Header Bidding.

313. Google also splits the data it provides publishers into bid-level data and impression-level data. The impression-level data informs the publisher which demand source won each impression. The bid-level data gives publishers a limited amount of information concerning the bids submitted for specific impressions. By splitting the data, Google makes it impossible for their publisher customers—even sophisticated publishers—to see if the high bidder won.

314. By impairing Header Bidding in this way, Google's redactions also maintained and enhanced Google's monopoly power in both the Ad Server and Ad Exchange markets. Specifically, Google has used its monopoly position in the Ad Server market to limit the data available to publishers about how various demand sources (Header Bidding, Ad Exchanges, Open Bidding, and Ad Networks) perform. That is a core function of a competitive Ad Server product that Google degrades through this conduct. In other words, Google degrades the quality of its Ad Server for its publisher customers as a means to impair competition in the Ad Exchange and Ad Network markets. Similarly, by obscuring how rival Ad Exchanges and Ad Networks (through Header Bidding or otherwise) perform, Google impairs those rivals' ability to use better quality or efficiency to compete with Google in the Ad Exchange and Ad Network markets.

7. Act 11: Google’s Use of its Large Advertiser Ad Buying Tools Dominance to Thwart Heading Bidding through Project Poirot.

315. DV360 is Google’s dominant Ad Buying Tools tool for large advertisers. Through Act 11 (called “Project Poirot”), Google began in 2018 to use that dominance, as part of its overall Scheme to identify which rival Ad Exchanges were likely participating in Header Bidding, and then punish those Ad Exchanges by diverting Google’s Ad Buying Tool DV360’s ad buys away from those Ad Exchanges to Google’s own AdX Ad Exchange. By thus using its monopoly power in Ad Buying Tools to disadvantage Google’s Ad Exchange rivals, Project Poirot maintained and enhanced its monopoly power in the Ad Exchange market and the market for Ad Buying Tools for large advertisers, impairing competition in both those markets.

316. Project Poirot was devised “to combat the effects of Header Bidding” by Google’s quantitative team, called “gTrade,” by identifying when a rival Ad Exchange was not running a true second-price auction. The algorithm relied on inputs from DV360’s own bid data to detect and quantify any deviations from second-price auctions. Once detected, Poirot would typically adjust DV360’s bid to avoid overpaying for an impression or providing the rival Ad Exchange with meaningful data about DV360’s willingness to pay.

317. Although Google’s DV360 team was openly critical of “greedy” rival Ad Exchanges that claimed to run a true second-price auction while actually running a “dirty” second-price auction, Google’s own Ad Exchange was engaging in the very same auction manipulation. Accordingly, DV360 intentionally bid less on rival Ad Exchanges and increased bids on AdX, ostensibly to avoid optimizations that were bad for advertisers and good for publishers, when DV360 was redirecting that ad spend to a marketplace—Google’s own—that engaged in exactly the same behavior. In reality, Google’s efforts to “protect” advertisers did nothing of the kind, but instead directly reallocated advertising dollars to Google’s own Ad

Exchange with no actual benefit to advertisers. Initial experiments regarding the effect of Project Poirot actually showed a negative revenue impact of this conduct to DV360, but Google's main goal was depriving rival Ad Exchanges of sufficient scale to compete with Google's Ad Exchange: "Non-second price exchanges will see a revenue drop in the range of 20-30% ... Overall [DV360] revenue impact is -1.9%." In other words, Google internally recognized that the conduct in fact sacrificed profits in the Ad Buying Tools markets as a means of impairing competition in the Ad Exchange market.

318. Google later extended Project Poirot to optimize bidding in first-price auction environments like the ones used by Header Bidding exchanges. As one Google employee noted, "Our response to [Header Bidding] has been a multi-pronged effort, which includes ... First-Price Auction Defenses in [DV360] (since all [Header Bidding] is transacted through first-price auctions)." This expansion of Poirot proved successful. As Google explained internally, "Poirot has actually been quite effective, resulting in [DV360] spending 7% more on AdX and reducing spend on most other exchanges."

8. Act 12: Google's Use of its Large Advertiser Ad Buying Tools Dominance to Thwart Heading Bidding through Project Elmo.

319. Through Act 12, beginning in 2018 and continuing through the present, Google used its dominance in the Ad Buying Tools for large advertisers to penalize rival Ad Exchanges for participating in Header Bidding. Google engaged in this conduct (Act 12) in order to maintain and enhance Google's monopoly power in the Ad Exchange market and the market for Ad Buying Tools for large advertisers.

320. This "Project Elmo", another gTrade project designed to "protec[t] against Header Bidding", is a mechanism that reallocated ad spend away from rival Ad Exchanges engaged in Header Bidding. A major feature of Header Bidding is that it increased competition by routing a

bid request across multiple Ad Exchanges, allowing those participating Ad Exchanges to engage in a real time, competitive auction against each other. Google devised project Elmo to help DV360 identify when it saw the same bid request across multiple Ad Exchanges, and it decreased DV360's overall ad spend on any Ad Exchange that it suspected of meaningfully engaging in Header Bidding.

321. Elmo was very successful in achieving its objectives. By March of 2018, Elmo had decreased DV360 ad spend on the largest Ad Exchange user of Header Bidding by 25% alone, while also bringing in at least an additional 7.8% increase to DV360 spend on Google's Ad Exchange, or \$220 million. Just four months later, one internal Google document shows Elmo had accomplished a reduction of 44% in spend across major rival Ad Exchanges overall.

322. Taken together, Google used Poirot and Elmo, and other strategies to reduce advertiser spend on rival Ad Exchanges, as part of the Scheme, to undermine the success of Header Bidding and starve rival Ad Exchanges of their primary source of demand. According to one Google employee, the combined impact of these programs was on average a 21% revenue decrease on affected Ad Exchanges and a 16% increase in revenue or \$300 million for Google's Ad Exchange.

323. Poirot and Elmo were far from just functionalities that help Google decide where its Ad Buying Tools will bid. They were not competition on the merits; nor were they the product of superior skill, foresight, or historical accident. Their sole purpose was to destroy competition.

9. Act 13: Google's Use of its Ad Server Monopoly Power to Impose Uniform Price Floors.

324. Through Act 13, beginning in 2019 and continuing until the present, Google used its monopoly power in the Ad Server market, as part of its Scheme, to disadvantage rival

Exchanges by disabling them from setting lower price floors to attract more bidding interest from advertisers. By setting “Uniform Price Floors”, which operated in conjunction with its Minimum Bid to Win program (Act 15) described in Section IV.C.2 *infra*, Google further impaired competition in the Ad Exchange market.

325. A price floor is the minimum price that a publisher is willing to accept for a particular ad impression. Publishers tended to set a higher price floor on Ad Exchanges and Ad Networks whose bidders had better information or charged higher fees—like the bidders in Google’s AdX and GDN that had more information such as User IDs or, in the case of Minimum Bid to Win (Act 15), information on how much other advertisers were bidding. Setting higher floor prices for such stronger bidders (like advertisers using Google’s Ad Buying Tools) disincentivizes bid shading in Ad Exchanges and Ad Networks.

326. In response to publishers setting higher price floors for Google’s Ad Exchange and Ad Network as a means to counteract Google’s unfair advantages, Google imposed a uniform price floor requirement, also known as Google’s uniform pricing policy. This policy required publishers to set the same price floor for all Ad Exchanges and Ad Networks bidding on a given impression.

327. Google’s uniform price floors policy represented a change from its previous practice. Historically, publishers had set hundreds of different price floors, with variations tailored to specific Ad Exchanges and specific buyers. These variable price floors helped publishers increase revenue and improve the quality of advertisements. Google’s uniform pricing rules prohibited publishers from setting higher price floors for Google’s advertisers through advertiser-specific or Ad Exchange-specific price floors. Google imposed these uniform pricing

rules, beginning in 2019, on publishers through its publisher Ad Server and Ad Exchange tied-in product, called Ad Manager.

328. Uniform pricing rules guaranteed that Google's Ad Exchange had a pricing advantage, because publishers could no longer increase the price floor to account for Google's information advantage. AdX and Google's Ad Buying Tools had a substantial information advantage relative to their competitors (including, for example, information conveyed in connection with Search +, Smart Campaigns, and Minimum Bid to Win, discussed in Section IV.C). Uniform price floors prevented publishers from correcting for that information advantage.

329. Uniform price floors also gave a price advantage to Google because Google charged its publishers fees for transactions made on non-Google Ad Exchanges in connection with Exchange/Open Bidding that was applied after the winning bid was determined. To counteract this, publishers had adjusted their price floors to take account of the application of Google's surcharge (of 5% or more) on the winning bids from non-Google Ad Exchanges and Ad Networks. Uniform price floors prohibited publishers from doing so.

330. Likewise, uniform pricing rules prohibited publishers from diversifying the sources of demand for their inventory—publishers had previously set higher floors for Google's Ad Exchange and Ad Buying Tools in order to transact with a more diverse range of competitor Ad Exchanges and advertiser demand sources. Higher floors for Google versus rivals ensured that rival Ad Exchanges and Ad Buying Tools had a meaningful opportunity to return live, competitive bids, *i.e.*, increased competition. Google's uniform price floor policy counteracted those efforts.

331. Google's uniform price floor policy is exclusionary and has successfully foreclosed competition in the Ad Exchange market and the markets for Ad Buying Tools.

Google exercised its monopoly power in the market for publisher Ad Servers by imposing uniform price floors to drive more ad impressions to AdX, which restricted competition in the Ad Exchange market.

C. Google's Exclusionary Conduct Not Yet Before the Court

332. Google has used its monopoly power in the Ad Server market, as well as in the Ad Network market, and in one Adjacent Relevant Market, search advertising, to impair competition throughout the Ad Stack in multiple ways that are not contained in the States' Complaint and thus were not before this Court in its deliberations over Google's Motion to Dismiss the States' Complaint. Following the catalogue of these measures in Table 3 in the Introduction, this Section elaborates three additional conduct elements, all part of Google's Scheme, identifying the time periods they were effective, which markets were involved in the conduct, and markets where competition has been impaired.

333. Like the tying conduct (Act 1 to Act 4) and the other conduct on which the Court has already ruled (Act 5 to Act 13), these additional elements of conduct were not competition on the merits; nor were they the product of superior skill, foresight, or historical accident. Their sole purpose and effect was to destroy competition.

1. Act 14: Google Acquired and Entrenched its Monopoly Power in Publisher Ad Networks and Ad Servers by Automatically Spending Search-Only Advertiser Budgets on the Google Display Network (Search+ and Variations)

334. Google wields monopoly power in the online search advertising market, with a market share in excess of 70%, by virtue of Google's dominance in the provision of online search engine services (running over 90% of online search queries). Relying on this monopoly power, Google requires advertisers wishing to purchase Google's search advertising to use Google's tools for advertisers to make such purchases.

335. Through Act 14, from 2011 to the present, Google has used its power over online search advertising and its concomitant control over Ad Buying Tools for small advertisers to funnel search advertising dollars into display advertising on its own Ad Network, conduct which has impaired competition in both the Ad Network and Ad Server markets.

336. Through a combination of programs including Search+, Smart Campaigns, and Remarketing for Search Advertisers, Google's Ad Buying Tools used portions of the advertising budgets of "search-only" advertisers to automatically buy display ads on the Google Display Network ("GDN"), which is the dominant if not exclusive purchaser of ad impressions from publishers using Google's AdSense product and is a significant purchaser of ad impressions through Google's Ad Exchange. In essence, Google bundled its monopoly-controlled online search advertising with display advertising on the Google Display Network. This bundling created and locked in a new and significant pool of advertiser demand for Google because the conduct was targeted at small- and medium-size advertisers that would not "multi-home" or use multiple Ad Buying Tools. Thus, this bundle effectively allowed Google to exclusively control the display advertising purchasing channels for these advertisers. Google used this control to restrict these advertisers' display advertising purchases exclusively to publishers using Google's Ad Network and Ad Exchange.

337. In 2011, Google's revenues from its Google Display Network—consisting of display advertising impressions offered on Google's owned and operated properties and on websites owned by publishers using Google's Ad Server products—were slowing to such a degree that Google called a "Code Red" on the North America display market. In response to a 14% decline in GDN traffic in the latter half of 2011, Google developed a multi-pronged cross-functional action plan designed to generate growth in GDN ad impressions and revenues. Google

set a goal to get more advertisers who only purchased search ad impressions (and not display ad impressions) to purchase display advertising on GDN.

338. Enter Search+, also known as “Display Expansion for Search”, a program through which Google provided bundled automatic spend on display ads for all Google advertisers who wanted to create new search campaigns. Some search-only advertisers had unspent dollars in their search advertising budget because the demand for search advertising was greater than the number of available search impressions. For example, if there were too few users searching for “best restaurants in Omaha”, a restaurant in Omaha that had submitted an advertising budget of \$5,000 to Google intended to target users entering that search query may only have spent \$3,500 on search ad impressions. As a result, that restaurant advertiser had indicated its willingness to spend an additional \$1,500 targeted at such users. Search+, implemented by Google’s Ad Buying Tools, would automatically divert those dollars (*e.g.*, the Omaha restaurant’s \$1,500) to the purchase of display advertising on GDN. As Google explained, “Search+ allows advertisers to increase the reach of their Search campaigns by leveraging Display Network. Similar performance with no additional setup.” The same advertiser text ad being displayed in search results would now be distributed across the Google Display Network. Continuing with the Omaha restaurant example, Google could target a user who had entered the “best restaurants in Omaha” search query with a text-based display ad when that user was looking at hotels in Omaha on TripAdvisor.

339. Google’s initial strategy and goal was to “opt-in” advertisers from search and have Search+ be “default-on” for all new Search campaigns created via Google’s dominant Ad Buying Tools for small- to medium-size advertisers, AdWords and AdWords express (later rebranded “Google Ads” reflecting the use of the Ad Buying Tool to purchase display

advertising and not just search). By the fourth quarter of 2018, Search+ was the default-on for *all* advertisers and was generating over \$300 million in annual display spending on GDN, all of which was “incremental to Google as Search+ can only spend unspent budget from Search campaigns”.

340. As an extension strategy for search campaigns, aimed at search advertisers “who will not come to display”, Google also developed GDN Remarketing for Search Advertisers, a program designed to target users who had responded to an advertiser’s search campaign by showing the advertiser’s ads to that same user across publishers who sold ad impressions through GDN. Google successfully integrated Remarketing for Search Advertisers into the display portion of Search+. Google internal documents exclaim “Remarketing is The Gateway Drug!” noting that “50% of Search-Only accounts that tested RMKT also activated another GDN campaign within 3 months.”

341. In 2017, Google introduced Smart Campaigns, an extension of Search+ which was implemented for all new AdWord accounts. Smart Campaigns precluded new AdWord advertisers from opting out of display advertising. Display advertising was always enabled for these search advertisers. While AdWords accounts could “escape” to see other campaign accounts, they initially saw only Smart Campaign. By 2018, Smart Campaigns were diverting 18% of advertiser spending from search to display advertising on GDN.

342. The strategy worked. Google’s Ad Server became a must-have product for publishers because Google required the use of its Ad Server to sell impressions through the Google Display Network and access this significant and unique advertiser demand. As Google noted in an internal document describing its strategy over 2015-2020, “Without a display O&O anchor, our primary selling point has been exclusive access to AdWords demand (it started off as

drafting search ads demand into display text ads).” By limiting its Search+, Smart Campaigns, and Search Advertiser Remarketing to display inventory offered only by publishers participating in the Google Display Network, Google used its monopoly power in the markets for search advertising and Ad Buying Tools used by small advertisers to successfully constrain competition in the Ad Network and Ad Exchange markets as well as the Ad Server Market.

2. Act 15: Google Used its Market Dominant Ad Server to Thwart Header Bidding by its “Minimum Bid to Win” Program.

343. Through Act 15, Google used monopoly power in the Ad Server market to assemble bidding data from advertisers to develop and deploy a new component of its Ad Buying Tools to enable advertisers to win ad impressions with the lowest bid possible, but only if advertisers placed their bids on Google’s Ad Exchange. This program, which Google called “Minimum Bid to Win” or “MBW” enabled advertisers bidding through AdX to bid no more than needed to win an ad impression. Minimum Bid to Win required the cooperation of participating advertisers who supplied their bids knowing that Google would use them to develop the Minimum Bid to Win algorithm, which would starve Header Bidding of advertising volume, while maintaining and enhance Google’s monopoly power in its Ad Exchange and Ad Buying Tools. Minimum Bid to Win thus impaired competition in both the Ad Exchange and Ad Buying Tools markets.

344. When Google began implementing Minimum Bid to Win, Ad Exchanges participating in Header Bidding had shifted to using first price auctions, not the second price auctions Google was using in its Ad Exchange. As already described herein, second price auctions incentivize advertisers to bid the full amount at which the advertisers value a particular impression because the advertiser knows that it would never have to pay more than it took to beat the second highest bidder. On the other hand, first price auctions can result in the winning

advertiser bidding far more than required to win the auction. Consequently, in a first price auction, bidders will engage in a practice known as bid shading to try to bid no more than necessary to win the auction.

345. Minimum Bid to Win is, in essence, a bid shading algorithm that allows advertisers to bid confidently knowing that their bid will be no higher than needed to win a first-price auction. Google implemented Minimum Bid to Win in connection with a switch to first price auctions. With Minimum Bid to Win, Google's advertisers bidding in AdX (including where AdX participates in Exchange/Open Bidding auctions) approximate the results of a second price auction within Google's first price auction.

346. Google used its monopoly power in the Ad Server market to amass bidding data on all Ad Exchanges and then shared that data through its Ad Buying Tools with Google's advertisers to inform Google's advertisers' bidding. In other words, Google used data gained from its relationship with publishers to optimize results for Google's advertiser clients (by submitting lower bids overall) at publishers' expense (because they receive less revenue for ad impressions). Google was able to implement this initiative only because its dominant DFP had exclusive access to all bids submitted to its Ad Server from multiple Ad Exchanges (including in Exchange/Open Bidding auctions), and only because Google had eliminated nearly all competition in the Ad Server market.

347. Because multiple auctions for ad impressions to be shown to the same user can take place within seconds, Minimum Bid to Win information allowed Google's advertisers to bid lower than the advertisers' perceived value for the impression and still win the auction. For example, Google could use Minimum Bid to Win data from a completed auction for an ad

impression at the top of a web page to predict the minimum bid necessary to display an ad to the same user viewing another ad slot lower down on the same page.

348. The informational advantage conveyed by Minimum Bid to Win drove advertisers to use Google's Ad Exchange and Ad Buying Tools, foreclosing competition in those markets. Because Google's Ad Buying Tools did not bid into Header Bidding auctions, Google also deprived Header Bidding auctions of advertiser bidders through Minimum Bid to Win.

349. Notably, Google itself is among the buyers that benefit from the deflationary effect on publisher auction prices. In other words, Google has used its role on the sell-side and as the auction venue to depress both competition with AdX and the prices submitted by advertisers, allowing it to enlarge its own margin on the buy-side by charging advertisers more for its Ad Buying Tools.

350. Google's implementation of its uniform price floor policy protected the viability of Google's MBW program. Through MBW, Google's bid shading program for advertisers using Google's Ad Buying Tools, allowed Google's advertisers to bid the minimum amount needed to prevail over other bidders. A publisher seeking to optimize revenue the sale of the publisher's ad impressions—a primary objective of a competitive publisher Ad Server—would impose a higher floor price on an Ad Exchange engaged in bid shading.

351. For example, if Google's MBW program knows that it will only take \$1.00 to win an auction for a given impression, even though the advertiser values the impression at \$1.20, MBW will instruct Google's advertiser client to bid only \$1.00. However, if a publisher knows that the advertiser valued the impression at \$1.20, *e.g.*, because the publisher's Ad Server has historical bid data indicating the price at which the impression would likely sell, the publisher could impose a price floor of \$1.20 on AdX to force that Google advertiser to bid its full value.

Because setting higher floors for stronger bidders (*i.e.*, bidders getting an unfair advantage like those using Google’s Ad Buying Tools and Google’s AdX) can counteract bid shading, Google’s imposition of its uniform price floor policy directly impaired publishers’ ability to counteract the negative effects of Google’s MBW program. And like Google’s MBW program, Google’s imposition of uniform price floors was an exercise of Google’s monopoly power in the Ad Server market to impair the prices Google’s publishers could get for their ad inventory in the Ad Exchange market. Once again, Google was degrading the quality of its Ad Server to harm Google’s rivals in the Ad Exchange and Ad Buying Tools markets. Unsurprisingly, AdX’s share of impressions grew after Google used its Ad Server to implement MBW and uniform price floors.

352. Google’s uniform pricing rules also coerced publishers to transact with Google’s Ad Buying Tools on AdX, enhancing or entrenching Google’s dominance in this segment of the Ad Tech Stack. Publishers could no longer set higher floors for DV360 on AdX compared to other tools, so uniform pricing rules forced publishers to transact with DV360 more than they otherwise would have without them. Google used its monopoly power in the Ad Server market to require publishers to set uniform prices that advantaged Google’s products and impaired its competitors and harmed competition in the Ad Exchange and Ad Buying Tools markets.

3. Act 16: Google Excludes Rival Ad Exchanges Under the Guise of Policing Malicious Code.

353. Through Act 16, at some time before 2020 and continuing until the present. Google used its AdSense monopoly power to prevent competition from rival Ad Networks, thereby impairing competition in the Ad Network market.

354. Ad Networks act as intermediaries, helping to match advertisers with small and medium-sized publishers whose page views are not high enough to allow them to offer their advertising inventory directly on the more sophisticated Ad Exchange marketplaces.

355. Under the false pretext of controlling problematic code, Google's publisher Ad Server excluded rival Ad Networks from competing for impressions, thereby driving more business to the Google Ad Network and diminishing publisher revenues. Google's publisher Ad Server informed the publisher and the rival Ad Network that there was a problem with the rival Ad Network's code. The Ad Server removed the rival Ad Network's code, which effectively precluded the rival from competing for the publisher's impressions. The rival Ad Network was then forced to resubmit the same code to the publisher's Ad Server, which required extensive work and hours of labor by staff at both the rival Ad Network and the publisher, and jeopardized the rival Ad Network's business relationship with the affected publisher. Moreover, while this work was in process, the rival Ad Network was not permitted to compete for that publisher's impressions in the Google publisher Ad Server.

356. This recurring practice, instituted by the Google publisher Ad Server, injured rival Ad Networks by imposing unnecessary additional costs on publishers seeking to use the rival Ad Networks in conjunction with their Google Ad Server. Publishers were injured, in part, because impaired rivals included Ad Networks that paid more for the same inventory than Google's Ad Network was willing to offer. Through its anticompetitive conduct, Google has used its monopoly power in publisher Ad Servers to enhance and maintain monopoly power the Ad Network market, and as with Google's conduct in the Ad Network market, the impacts of these acts are exacerbated by indirect network effects.

V. **SUBSTANTIAL FORECLOSURE**

357. Google's Scheme goes far beyond aggressive competition. Google's anticompetitive actions that make up the Scheme intended to, and did in fact, exclude, substantially foreclose, and impair rivals and harm the competitive process in all of the Relevant Markets. No part of the Scheme is innovative. Nor is the Scheme competition on the merits or otherwise privileged. Worse yet, the Scheme has been systematically planned and thoroughly executed over many years. It was and is willful. Through the actions alleged above, Google has substantially foreclosed competition in each of the three alleged Relevant Markets, as well as the Ad Buying Tools Adjacent Relevant Markets.

358. More specifically, Google foreclosed what few service providers remained by steering auctions to Google's services and away from the other service providers, raising such rivals' costs when the rivals managed to win auctions for Google's publisher-clients' ad inventory notwithstanding the hurdles Google imposed. Because of this conduct, potential rivals lack the ability to generate scale sufficient to compete with Google.

359. The foreclosure caused by Google's conduct in the publisher Ad Server market can be seen by the exit of competitors and limited entry over the past decade or so. Several large advertising technology firms offered publisher Ad Server solutions, including substantial competitive offerings from Yahoo!, AppNexus, and OpenX. Today, few publisher Ad Server competitors remain in the United States. Yahoo's publisher Ad Server was acquired in 2017 and shuttered in 2019. AppNexus's publisher Ad Server was acquired by AT&T and rebranded to Xandr, which has since been sold to Microsoft. OpenX shut down its Ad Server solution in 2019.

360. Entry into the publisher Ad Server market has been remarkably weak over the past decade. This lack of entry is a result of high switching costs for publishers augmented by the

artificial barriers arising from Google's anticompetitive conduct. As a result, publishers have very limited alternatives to Google's publisher Ad Server, and rivals are unable to compete by improving quality or lowering price.

361. Google's conduct has also substantially impaired competition in the Ad Exchange and Ad Network markets, in which Google has maintained or enhanced monopoly power. In part as a direct result of Google's anticompetitive conduct, several Ad Exchanges have left the Ad Exchange business, including adBrite, Microsoft (AdECN), Yahoo, and the ASDAQ exchange.

362. Among the remaining major competitors, Rubicon has consistently lost money and been barely profitable. Rubicon has attempted to remain alive in the Ad Exchange business by sharply cutting its fees to percentages in the low teens or lower, a strategy which the company itself admitted may not succeed. The financial condition of OpenX, another competing privately owned Ad Exchange, is not publicly reported and therefore unknown, although it was reported to have laid off approximately 20% of its staff at the end of 2018 and added more layoffs since then.

363. In the Ad Network market, Google's use of its Ad Server product to block the bids of competing Ad Network has driven more market share to Google's own Ad Network. By anticompetitively driving additional usage of its Ad Exchange, Google has unlawfully enhanced and maintained its monopoly power in the Ad Network market by impeding its rivals' ability to compete on the merits, including through the use of strategies raising rivals' costs.

VI. ANTICOMPETITIVE EFFECTS

364. Google's Scheme, taken as a whole, has adversely affected competition and innovation in each of the Relevant Markets (the Ad Server, Ad Exchange, and Ad Network markets), including by, *inter alia*:

- Artificially inflating “take rates” paid by publishers and advertisers for Ad Exchanges and Ad Networks;
- Degrading the quality of Ad Server services;
- Reducing output in all of the Relevant Markets;
- Impairing the incentive of Google’s competitors and potential competitors in the Ad Server, Ad Exchange, and Ad Network markets to undertake research and development, because they know that Google will be able to limit the rewards from any resulting innovation;
- Inhibiting Google’s competitors that nevertheless succeed in developing promising innovations from effectively marketing their improved products to customers;
- Reducing the incentive and ability of advertising platforms, and other competitors to innovate and differentiate their products in ways that will appeal to customers;
- Reducing competition and the spur to innovation by Google and others that only competition can provide; and
- Impairing and excluding rivals from the Ad Server, Ad Exchange, and Ad Network markets alleged herein by raising rivals’ costs, blocking entry and expansion, and through other anticompetitive means.

365. In addition to economic harm in fact to customers and competitors, the exclusion of competitors from competition on the merits, and harm to consumers from thwarting competition on the merits, Google’s Scheme also increases costs in distribution of products and services in the Relevant Markets; abuses its gatekeeping function and increases cost of market access across markets; and causes reverse network effects that result when Google’s products and services are prominent and properly functioning, while those of competitors are downgraded and unlawfully shut down by Google.

366. Google’s Scheme lacks any procompetitive justification. Moreover, the harm to competition—particularly to publishers—in the Ad Exchange, Ad Network, and publisher Ad Server markets from Google’s unlawful conduct more than offsets any pro-competitive benefits or justifications Google may offer.

367. Google has made the remarkable assertions that it is immune from challenges to its misconduct because its policies and practices “account of conflicting demands of publishers, advertisers, and consumers, in the interests of creating a level playing field in which the most useful ads are seen by the most relevant audiences”. Google is a business that maximizes its own revenue and self-interest. As for the rest, *antitrust law*, not Google, sets the playing field and it is an economic truth fundamental to our market system that what is most “useful” is determined through competition, not a single giant company. It is the height of arrogance for Google to claim that it should control the markets, or that it can abuse its market power because it knows what is best.

CLASS ALLEGATIONS

368. Plaintiffs bring this action on behalf of themselves and as a class action under Rule 23(a), (b)(2) and (b)(3) of the Federal Rules of Civil Procedure on behalf of the following classes (“Classes”):

- Class 1 – All persons or entities in the United States that paid take rates directly to one or more Defendants and/or received revenue directly from one or more Defendants for displaying advertisements on their websites using Google’s Ad Exchange services from December 15, 2016 through the present (“Class Period”).
- Class 2 – All persons or entities in the United States that paid take rates directly to one or more Defendants and/or received revenue directly from one or more Defendants for displaying advertisements on their websites using Google’s Ad Network services during the Class Period.

Specifically excluded from the Classes are: Defendants; the officers, directors, or employees of any Defendant; any entity in which any Defendant has a controlling interest; any affiliate, legal representative, heir, or assign of any Defendant, and any person acting on their behalf. Also excluded from the Classes are any judicial officer presiding over this action and the members of his/her immediate family and judicial staff, and any juror assigned to this action.

369. The Classes are readily ascertainable and the records for them should exist, including, specifically, Defendants' own records and transaction data.

370. Due to the nature of the trade and commerce involved, there are thousands of geographically dispersed members in the Classes, the exact number and their identities being known to Defendants.

371. Plaintiffs' claims are typical of the claims of the members of the Classes. Plaintiffs and members of the Classes sustained damages arising out of Defendants' common course of conduct in violation of the laws alleged herein. The damages and injuries of each member of the Classes were directly caused by Defendants' wrongful conduct.

372. There are questions of law and fact common to the members of the Classes, including, but not limited to, the following:

- whether Google has monopoly power in the publisher Ad Server, Ad Exchange, and/or Ad Network markets;
- whether Google's overarching Scheme furthers Google's monopoly power in the Ad Server, Ad Exchange and Ad Network markets;
- whether, as part of its Scheme, Google's two-way ties (Act 1 to Act 4) of its publisher Ad Servers on the one hand and Ad Exchange and/or Ad Network on the other furthers Google's monopoly power in the Ad Server, Ad Exchange, and Ad Network markets, and/or also constitutes an unlawful restraint of trade;
- whether Google, as part of its Scheme, has used its monopoly power in the Ad Server market in other ways to impair competition in the Ad Exchange, Ad Network and/or Ad Buying Tools markets (*i.e.*, Act 2, Act 4 to Act 6, Act 8 to Act 10, Act 15 to Act 16);
- whether Google, as part of its Scheme, used its monopoly power in the Ad Exchange Market to impair competition in the Ad Server, Ad Exchange, and/or Ad Buying Tools markets (*i.e.*, Act 1, Act 7);
- whether, as part of its Scheme, Google's multiple acts of exclusionary conduct aimed at thwarting Header Bidding (Act 1 to Act 4, Act 9 to Act 13 and Act 15), thereby contributed to and maintained Google's monopoly power in the Ad Exchange and Ad Buying Tools markets;

- whether Google, as part of its Scheme, used monopoly power in the online search advertising market to impair competition in the Ad Server and/or Ad Network markets (Act 14);
- whether Google's conduct has harmed Plaintiffs and class members by reducing their revenues from the sale of their ad inventory;
- whether Google's conduct has harmed Plaintiffs and class members by causing them to pay suprareactive prices for Google's Ad Exchange, Ad Network, and publisher Ad Server services; and
- the appropriate Class-wide measures of damages.

373. Plaintiffs will fairly and adequately protect the interests of the members of the Classes. Plaintiffs' interests are aligned with, and not antagonistic to, those of the other members of the Classes, and Plaintiffs have retained counsel competent and experienced in the prosecution of class actions and antitrust litigation to represent themselves and the Classes.

374. Questions of law or fact that are common to the members of the Classes predominate over any questions affecting only individual members of the Classes.

375. A class action is superior to other available methods for the fair and efficient adjudication of this controversy. The prosecution of separate actions by individual members of the Classes would impose heavy burdens on the courts and Defendants and would create a risk of inconsistent or varying adjudications of the questions of law and fact common to the Classes. A class action, on the other hand, would achieve substantial economies of time, effort, and expense and would assure uniformity of decision as to persons similarly situated without sacrificing procedural fairness or bringing about other undesirable results. Absent a class action, it would not be feasible for the vast majority of Class members to seek redress for the violations of law alleged herein.

ANTITRUST INJURY

376. Plaintiffs and members of both proposed Classes have suffered antitrust injury as a direct result of Google's unlawful conduct. As a direct and proximate result of Google's anticompetitive conduct, as alleged herein, Plaintiffs and members of the Classes suffered substantial losses to their business or property by paying artificially inflated prices to Google for its services in the Relevant Markets and causing the revenues they received directly from Google for selling non-search digital display advertising space to be artificially suppressed during the Class Period. The full amount of such damages will be calculated after discovery and upon proof at trial.

377. Due to Google's ill-gotten market power, through the conduct alleged herein, Plaintiffs and the Classes directly paid Google a supracompetitive cut of the advertising revenues publishers generated for user visits to their sites. Absent this anticompetitive conduct, however, Plaintiffs and members of the Classes would have paid less to Google and received more revenues from Google for advertising on their sites.

378. Total damages from Google's unlawful conduct suffered by Class members during the Class Period amount, at the very least, to hundreds of millions of dollars. Google's anticompetitive conduct is continuing and so are the damages suffered by members of the Classes.

379. Google's conduct alleged herein manipulates the auctioning and ad placement processes in ways that favor Google and suppress the net advertising income publishers receive from Google.

380. Google represents the interests of two sides of the Ad Tech Stack that conflict; advertisers want to pay as little as possible, whereas publishers want to maximize their revenues.

Google represents neither interest. Google instead prioritizes Google's services to maximize the revenue Google can retain from advertiser payments before transmitting the net payments to publishers; in other words, Google seeks to maximize the spread between what advertisers pay and what publishers receive in connection with each ad placement because Google retains that difference.

381. In a competitive market, publishers would seek out Ad Servers, Ad Exchanges, and Ad Networks that would represent the publishers' interests, including maximizing publishers' revenue from auctions as opposed to prioritizing the vendors' own services to maximize the vendors' ability to capture commissions. This competition would drive down the cost of services in the Ad Tech Stack and increase publishers' ad revenues by more efficiently running auction processes, as well as improving the quality of publisher-facing ad tech services. Every stakeholder in the market—except Google—would benefit.

382. When Google's anticompetitive conduct is stopped, those supercompetitive take rates will be lowered by increased competition. Google currently retains at least 30% of what Google's advertisers pay to place ads on Google's publishers' pages (and analyses of pre-2019 periods estimate that Google took around 50% of advertiser payments), and in a competitive market, Google would retain a lower share of what would likely be higher gross revenues.

383. Publishers' revenues would be higher absent Google's conduct for a variety of reasons including, without limitation, auction bids would be higher as participants combine into unified auctions without Google's self-preferencing and manipulations. Furthermore, absent Google's anticompetitive conduct, Google's commissions would decrease, and publishers would see higher net revenues. With more revenues, publishers would expand output creating more ad impressions for sale.

384. In December 2019, the CMA reached a similar conclusion after a six-month inquiry into online platforms and digital advertising. Drawing on four different data sources, the CMA estimated Google's average “take rate” by its main advertiser and publisher-facing intermediaries. It calculated an average Ad Server fee of 22% and a weighted advertiser tool fee of 18%—making the overall “take rate” for matching advertisers to publishers 40% of the total ad spend. These findings ultimately led it to conclude that “the fact that intermediaries are able to take more than a third of the total amount paid by advertisers raises legitimate concerns about whether the intermediation chain is operating efficiently”. It added that “competition [in the digital advertising space] would drive greater innovation and put downward pressure on fees”.

385. Aspects of Google's Scheme have also inflated take rates and fees paid by advertisers.

GOOGLE CANNOT JUSTIFY ITS ILLEGAL CONDUCT

386. Google cannot justify its restraints of trade and monopolizing conduct.

387. Google cannot supportably claim efficiency justifications for its conduct because Google's conduct creates numerous inefficiencies.

388. Nor is there any valid argument that monopoly power is somehow desirable in the Relevant Markets. Even in markets with network effects, antitrust law does not recognize a defense to anticompetitive conduct based on size. Moreover, as confirmed by relevant empirical and economic literature, competition between platforms results in better quality, better matches, and lower net prices. Competition on the merits—in both the Ad Exchange and Ad Network markets—will produce better outcomes for consumers than monopoly power because competing Ad Exchanges and Ad Networks will be incentivized to lower their take rates, increasing revenue to publishers enabling them to generate additional, higher-quality content.

389. Nor can Google claim any of the abstract justifications often used when firms “vertically integrate”. Google’s integration in fact reflects a strategy through which Google raises barriers to entry and prevents new competitors or ways of doing business from breaking into the online advertising marketplace.

CALIFORNIA LAW APPLIES TO THE ENTIRE CLASS

390. California’s substantive laws apply to every member of the Classes, regardless of where in the United States the Class member resides. Defendants’ Terms of Service explicitly state that California law will govern all disputes arising out of or relating to the terms, service-specific additional terms, or any related services, regardless of conflict of laws rules. By choosing California law for the resolution of disputes covered by its Terms of Service, Google concedes that it is appropriate for this Court to apply California law to the instant dispute.

391. Further, California’s substantive laws may be constitutionally applied to the claims of Plaintiffs and the Classes under the Due Process Clause, *see* U.S. CONST. amend. XIV, § 1, and the Full Faith and Credit Clause, *see* U.S. CONST. art. IV, § 1, of the U.S. Constitution. California has significant contact, or significant aggregation of contacts, with the claims asserted by the Plaintiffs and all Class members, thereby creating state interests that ensure that the choice of California state law is not arbitrary or unfair. Defendants’ decision to reside in California and avail itself of California’s laws, and to engage in the challenged conduct from and emanating out of California, renders the application of California law to the claims herein constitutionally permissible. The application of California laws to the Classes is also appropriate under California’s choice of law rules because California has significant contacts with the claims of Plaintiffs and the proposed Classes, and California has the greatest interest in applying its laws here.

CLAIMS FOR RELIEF

COUNT I

**Violations of § 1 and 2 of the Sherman Act, 15 U.S.C. § 1 and 2
Unlawful Tying**

392. Plaintiffs repeat and reallege every proceeding allegation as if fully set forth herein.

393. Google tied its AdX Ad Exchange to its DFP Ad Server, and its DFP Ad Server to its AdX Ad Exchange (Act 1 and Act 2), thereby coercing publishers to enter contracts to license each of these products.

394. Google's DFP and Google AdX are separate and distinct products in separate product markets.

395. Google's AdX and DFP each have monopoly power or, in the alternative, sufficient market power in each market to coerce publishers to license each product, thus restraining competition in both the Ad Exchange and Ad Server markets.

396. Google tied its GDN Ad Network to its DFP and AdSense Ad Servers, and its DFP and AdSense Ad Servers to its GDN Ad Network (Act 3 and Act 4), thereby coercing publishers to enter contracts to license each of these products.

397. Google's DFP and AdSense Ad Servers are separate and distinct products from Google's GDN Ad Network, competing in separate markets.

398. Google's DFP and AdSense Ad Servers, and its GDN Ad Network, each have monopoly power or, in the alternative, sufficient market power in each of their respective markets to coerce publishers to license each of the foregoing products, thus restraining competition in both the Ad Server and Ad Network markets.

399. Google's tying arrangements affect a substantial volume of commerce in the Ad Server, Ad Exchange and Ad Network markets and have substantially foreclosed competition in the publisher Ad Server, Ad Exchange, and Ad Network markets.

400. Google's tying arrangements have excluded competition in the publisher Ad Server, Ad Exchange, and Ad Network markets and foreclosed competitors in each market and impaired competition in each market for reasons having nothing to do with the merits of any of Google Ad Server, Ad Exchange, and Ad Network products.

401. For the reasons set forth above, Google has violated Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1, 2

COUNT II
Violation of § 2 of the Sherman Act, 15 U.S.C. § 2

402. Plaintiffs repeat and incorporate by reference each of the foregoing allegations of this Complaint.

403. The Relevant Markets defined above are valid antitrust markets.

404. Google possesses monopoly power in the publisher Ad Server, Ad Exchange, Ad Network, Advertiser Buying Tools, and Search Advertising markets.

405. Using the Scheme alleged herein, Google has willfully maintained and/or enhanced its monopoly power in the publisher Ad Server, Ad Exchange, and Ad Network markets. Google willfully seeks to maintain and enhance its monopoly power through the alleged anticompetitive conduct.

406. There are no procompetitive benefits or justifications that offset the competitive harm of Google's unlawful conduct.

407. As a result of Google's unlawful conduct as alleged herein, Plaintiffs and members of the Classes have suffered, and continue to suffer, monetary harm in an amount to be proved at trial.

COUNT III
Violation of California's Unfair Competition Law
(Cal. Bus. & Prof. Code § 17000 *et seq.*)

408. Plaintiffs repeat and incorporate by reference each of the foregoing allegations of this Complaint.

409. Google's conduct constitutes deceptive, fraudulent, unlawful and/or unfair business acts and practices, including Google's violations of Section 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1 and 2, and the California Cartwright Act (Cal. Bus. & Prof. §§16700 *et al.*).

410. Google's conduct threatens an incipient violation of the antitrust laws alleged herein, and it violates the policy and spirit of those laws because the effects of the conduct are comparable to or the same as a violation of the law, and it otherwise significantly threatens and harms competition.

411. Additionally, Google's conduct on balance harms consumers and competition, offends established public policy, is substantially injurious to consumers, and is neither outweighed by countervailing benefits nor avoidable by consumers.

412. Plaintiffs and members of the Classes have been deprived of money or property as a result of Google's unfair business practices alleged herein through numerous mechanisms, including, but not limited to Google's artificially suppression of publishers' advertising revenue through (a) artificially inflated fees, and (b) artificially reduced prices for ad space.

COUNT IV
Violation of California's Cartwright Act
(Cal. Bus. & Prof. Code § 16700 *et seq.*)

413. Plaintiffs repeat and incorporate by reference each of the foregoing allegations of this Complaint.

414. Google's acts and practices detailed above violate the Cartwright Act, Cal. Bus. & Prof. Code § 16700 *et seq.*, which prohibits, *inter alia*, the combination of resources by two or more persons to restrain trade or commerce or to prevent market competition. See *id.* §§ 16720, 16726.

415. Under the Cartwright Act, a "combination" is formed when the anticompetitive conduct of a single firm coerces other market participants to involuntarily adhere to the anticompetitive scheme.

416. The Cartwright Act further makes it "unlawful for any person to lease or make a sale or contract for the sale of goods, merchandise, machinery, supplies, commodities for use within the State, or to fix a price charged therefor, or discount from, or rebate upon, such price, on the condition, agreement or understanding that the lessee or purchaser thereof shall not use or deal in the goods, merchandise, machinery, supplies, commodities, or services of a competitor or competitors of the lessor or seller, where the effect of such lease, sale, or contract for sale or such condition, agreement or understanding may be to substantially lessen competition or tend to create a monopoly in any line of trade or commerce in any section of the State." Cal. Bus. & Prof. Code § 16727.

417. Google tied its AdX Ad Exchange to its DFP Ad Server, and its DFP Ad Server to its AdX Ad Exchange (Act 1 and Act 2), thereby coercing publishers to enter contracts to license each of these products.

418. Google tied its GDN Ad Network to its DFP and AdSense Ad Servers, and its DFP and AdSense Ad Servers to its GDN Ad Network (Act 3 and Act 4), thereby coercing publishers to enter contracts to license each of these products.

419. Google further possesses market power in the publisher Ad Server, Ad Exchange, Ad Server, Advertiser Buying Tools, and Search Advertising markets. Google has exerted its power in those markets through that anticompetitive acts alleged herein (Acts 1 through 16) to willfully seek to maintain and enhance its monopoly power in the Ad Server, Ad Exchange and Ad Network markets through the alleged anticompetitive conduct.

420. There are no procompetitive benefits or justifications that offset the competitive harm of Google's unlawful conduct.

421. As a result of Google's unlawful conduct as alleged herein, Plaintiffs and members of the Classes have suffered, and continue to suffer, monetary harm in an amount to be proved at trial.

REQUEST FOR RELIEF

422. WHEREFORE, Plaintiffs and the Class members request the Court to enter judgment in their favor against Defendants, awarding all such relief as the Court deems appropriate and just.

423. Plaintiffs request the following relief:

A. That the Court determine that this action may be maintained as a class action under Rule 23(a), (b)(1), (b)(2), and (b)(3) of the Federal Rules of Civil Procedure, and direct that notice of this action, as provided by Rule 23(c)(2) of the Federal Rules of Civil Procedure, be given to Class members;

- B. That the Court enter an order declaring that Defendants' actions, as alleged herein, violate the law;
- C. That the Court award Plaintiffs and Class members damages, treble damages, punitive damages, and/or restitution in an amount to be determined at trial;
- D. That the Court order Defendants to fully divest their publisher Ad Server line of business, and refrain from operating within the market for publisher Ad Server products;
- E. That the Court permanently enjoin Defendants, their affiliates, successors, transferees, assignees, and other officers, directors, agents, and employees thereof from continuing, maintaining, or renewing the conduct alleged herein, and from adopting or following any practice, plan, program, or device having a similar purpose or effect;
- F. That the Court award Plaintiffs pre- and post-judgment interest;
- G. That the Court award Plaintiffs their costs of suit, including reasonable attorneys' fees and expenses; and
- H. That the Court award any and all such other relief as the Court may deem proper.

JURY TRIAL DEMAND

424. Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Plaintiffs demand a jury trial of all issues so triable.

Dated: December 2, 2022

Respectfully submitted,

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